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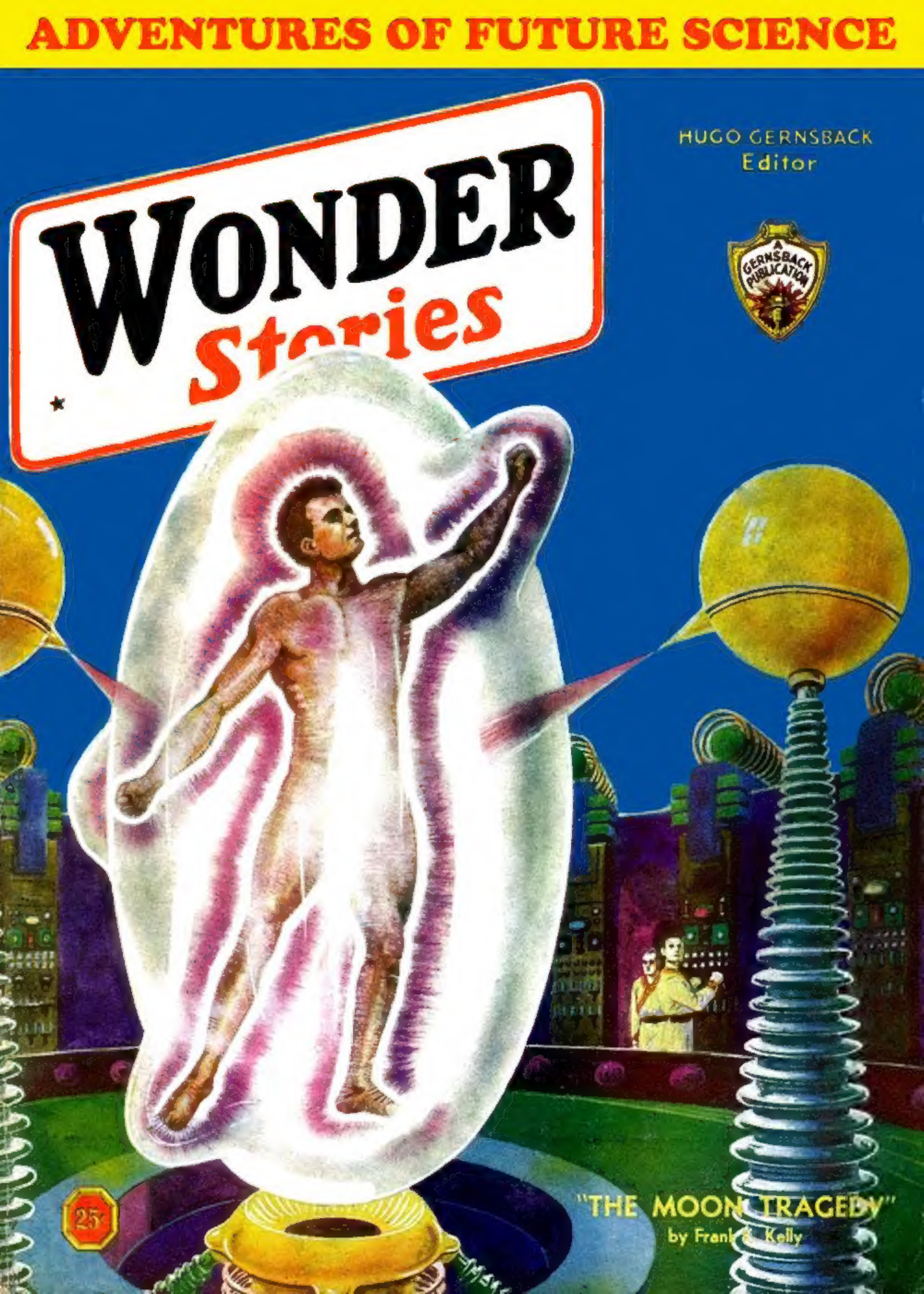

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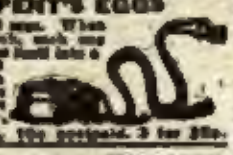

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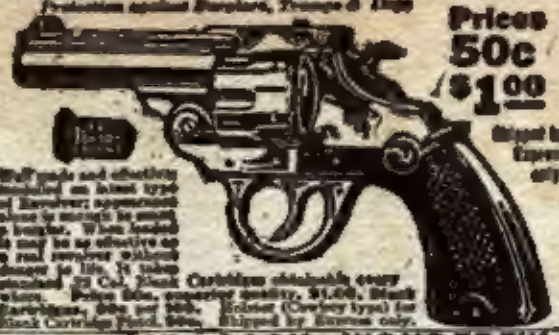

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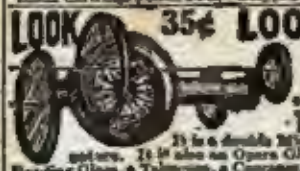

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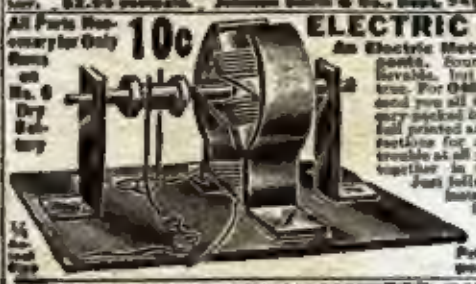

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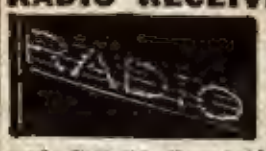

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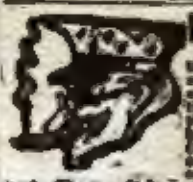

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The Magazine of Prophetic Fiction

WONDER Stories

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ON THE COVER THIS MONTH

taken from Frank Kelly's "The Moon Tragedy" we see the moon explorer being tested for his fitness and prepared to meet the conditions necessary to make the moon fit for habitation. The container he is in is subjected to the radiations from the machines on each side.

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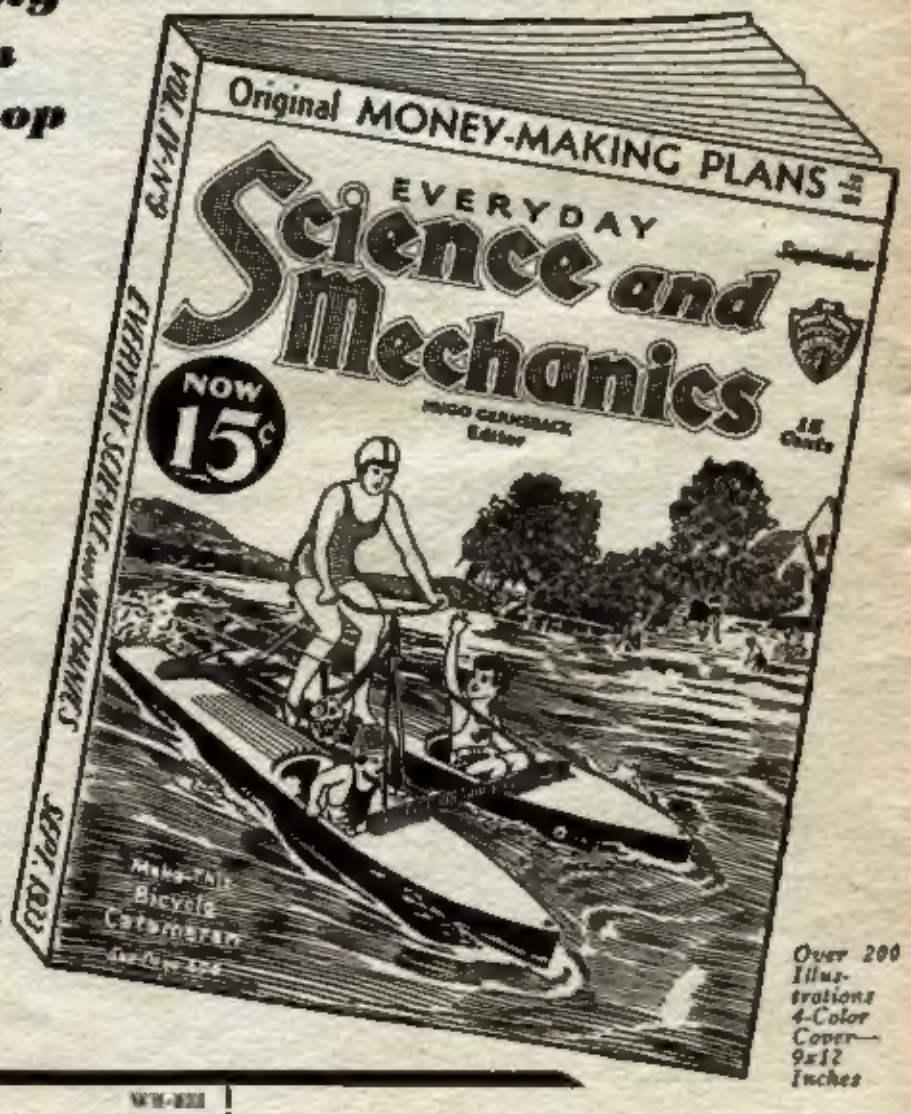

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EDITORIAL PAGE

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WONDER Stories

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WONDERS OF WORLD SPEEDS

An Editorial by Hugo Gernsback

● WHILE human beings are attempting to smash speed records by exceeding the 300-mile mark in our present-day airplanes, we should realize that these speeds assume ridiculous proportions when the speeds of heavenly bodies are considered. Recently Professor Alfred Joy, astronomer at the Carnegie Institution's Mount Wilson Observatory, announced that he found the earth whirling about the center of the Milky Way (its star system) at the rate of some 9,000 miles a minute. This is about 150 miles per second.

That, however, is not all. The earth is also revolving about our sun at the rate of about 1110 miles a minute, or 18½ miles a second. Moreover, the earth is turning on its own axis at the rate of more than 1000 miles an hour at the equator. This may all seem rather bewildering, but it is only a beginning. According to the Einstein theory, all speeds being relative to each other, the chances are that for many thousands of years to come, we will not have the slighest idea how fast we are moving and in actually what direction.

While we realize that the earth and the whole solar system may be whirling around the center of our galaxy, this fact alone is meaningless because no one knows how and in what direction the galaxy itself is moving. It may move thousands of miles a minute in any direction; it may be rotating on its own axis, or it may have a number of other motions of which we are entirely ignorant.

A fly sitting in the center of the spoke of a wheel is perhaps conscious that in one minute it is facing the earth and the next it is facing the sky. These positions are relative to earth and sky; but the fly is not at all concerned, or does not even know that while the wheel is turning, the earth upon which the wheel rests is performing a number of motions in space which are most complicated, and not even well understood by human beings.

The same is true of us when we try to fathom our complicated motions through space. And of space itself, we are still ignorant. Is it not possible that space itself may have motion? Suppose you consider an empty bottle out of which the air has been pumped, leaving behind only a few dust particles. These dust particles represent the universe with all its galaxies, stars, planetary systems, etc. You can imagine this bottle being whirled about your head at a fast clip. It is possible that similarly our own space, as far as we know it to exist, may bodily move in some direction. Of course, we cannot fathom this because we have no means to observe the motion, and have no idea if it exists or not.

Whether our own universe, better known as the galaxy, whirls about another system, or a common gravitational center, we do not know. From astronomical observations this idea should not be impossible because it is in keeping with past developments of a similar nature. Naturally, the further one body is removed from the parent body around which it revolves, the slower its speed. Thus, for instance, the planet Mercury, nearest to the Sun, moves at the rate of about 30 miles a second in its orbit, while Pluto, the most distant planet, moves at the rate of only about 2 miles a second, requiring some 250 years to complete its journey around our luminary.

The same line of reasoning may be used when we consider our own solar system in its motion around some other parent body such as our galaxy. Due to the tremendous distance from the galaxy's center, our speed may be comparatively small. Another "solar system," much nearer the center of the Milky Way, should move at a much faster rate if the conditions are approximately the same.

And, of course, the thought must arise, if our solar system is only a puny affair compared to the entire Milky Way, why is it not possible that the Milky Way, our galaxy, in turn, may also be only a somewhat large, but still "local" system, turning about some giant super universe, which is so far removed that it will take light and gravitation millions of years to bridge the gulf that separates these systems?

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(Illustration by Paul)

Sinuously the filaments, unwinding to surprising lengths, fastened upon the body of the prey. It was no forest we were in, but a vast colony of enormous sea-anemones.

MONSTERS OF CALLISTO

By EDWARD H. HINTON

● This story is as unusual as any we have published. It combines on the whole excellent science, with yet an imaginative quality that must thrill and stimulate the reader.

After all, the mysterious sea of Da'Elin, that our writer speaks of, is not an impossible creation. Who can say what queer combinations of forces in the universe may not exist, and produce this vaporous sea where sounds are not heard and where telepathic communication becomes the best medium of transmission of thoughts. And while we are on the subject, it is difficult to find a story of telepathy that does not become ridiculous. This story however, seems to be thoroughly convincing and plausible, chiefly because of the skill of the author, and his avoidance of anything that might be far-fetched.

We look forward to more stories from Mr. Hinton.

● From my post of command in the nose of the ship, with its transparent walls of erostellion, I could plainly see the moon of our destination, Callisto. The outlines of its continents and seas were blurred by the eternal haze of its atmosphere. Beyond the sphere of opalescent gold and green fell the black backdrop of space, richly jewelled with glittering stars.

I gazed down with a sense of warm satisfaction not unmixed with relief. My first independent command had made a successful maiden voyage, and my priceless cargo of radiatrite* would be delivered safely to our company engineers at Nunei.

It had been a trust, known only to myself and my two officers, Boaz and Halliday, and to a few high company Tycoons of Interplanetary Transport. Had knowledge of the shipment been made public, an attempt at piracy would certainly have followed.

Why I, Neill Furber, an obscure space transport man, had been chosen for this important mission, who can say?

It may be that my good fortune in the affair of the *Green Pentagon* had given my company officials a higher confidence in me than my abilities warranted. Be that as it may, the three months' rapid run from earth had been a period of constant vigilance and strain, and it was with great happiness of mind that I told myself, over and over, that in a matter of minutes, we should be in our berth at Nunei which is Callisto's capital city.

Already we were beginning to nose up to the vertical, preliminary to hooking up our own magnet with the magnetic radio beam, which ought by now to be on its way to us from our ground crew. For some little time the attraction of the little planet had made us independent of our gravity lines. As soon as we should enter the Callistan heaviside layer, the retractible helicopter screws would be broken out to oppose the gravitational pull, so that under the single influence of magnetic attraction we should drift downward in a bee line to our berth in Nunei.

And it was in that moment of my premature self-congratulation that I had the first inkling of disaster.

Through the earphones of our radio-control hookup came the crisp announcement of my first officer:

"After control room. Boaz speaking. Contact with base not established due to error in course. Cause, meteorite showers as radioed from Nunei observatory at 14.17. Altitude eight thousand—eight thousand—above heaviside. Am trying for contact with Nunei. Time: 17.03."

"Radio the base to stand by," I snapped back. "Coming down right away!" I slipped off the earphones and climbed down the monkey-ladder that led to the after control room, virtually sliding the length of the ship by the polished handrails. It was a serious matter to be off course anywhere above this planet graveyard of so many interplanetary ships so new to men of earth.

Particularly dangerous was it, if we were in the way of a meteorite shower with the erratic electrical disturbances that come with it. If we should meet the meteorites so far above the atmosphere, the cold, hurtling masses sweeping invisibly upon us, would shatter through our ethership like buckshot through a bubble.

In a matter of seconds I stood with my second and third-in-command in the control room bending over the chart-table. Boaz and Halliday understood, as well as I, the menace of the meteorites, and the failings of the best celestial charts with respect to Callisto. More alarming still, we had had no word from Nunei observatory for three hours. Magnetic contact had not been established, and the radio room was unable to pick up the base. Emphatically, something was wrong.

Silently the three of us studied the vast celestial chart before us. Wethered, our lank quartermaster, kept one eye on the planet below us, and the other on the altimeters and power gauges, while manipulating the console of power-tube stops; with the abstracted skill of profound experience he kept the great ship at the vertical.

"No word from Nunei you say?" said I.

Both men shook their heads.

"Communications dead," explained Boaz. "There's nothing to show that the base crew's on the job. Not a sign to show they're trying for magnetic contact."

*The catalyst used for the release of atomic energy, mined on Venus and transshipped to us at New York.

"They must be, though," said I. "That's what they're there for—to help set us down and nothing else. Have you checked position?"

"Yes," answered Boaz without meeting my eye. "I make it that we're on the wrong side of the planet—down horizon from the Nunei quadrant, and cut off from the radio-beam by the swell of the land . . ."

"Or the water . . ." amended Halliday quietly . . . "The Da'Elin!" And over the table I saw the two men exchange significant glances. A little chill of foreboding stole over me. I bent over the charts, studying Boaz' figures. I verified them by a rapid little calculation of my own, then straightened to meet the resolute, questioning gaze of my officers.

"Right!" I said. "We are over the Da'Elin—the Sea-of-No-Returning."

"What are the captain's orders?" asked Boaz.

It might have seemed a little needless at another time, that query of Boaz', but now it was different. It brought home to me with crushing force the fearful responsibility that had come to me on this, the maiden voyage of my first command. It was what every man would be asking himself.

"What are the captain's orders?"

● We hung above the most notorious graveyard of interstellar ships in the entire cosmos. From it no ship had ever been known to return, whence the name Nunei and earth had given it—Da'Elin, the Sea-of-No-Returning. A dozen complicated explanations of its menace had, and have since, been ventured by physicists, but none of them have to this day pointed a way to make safe the Da'Elin for ships approaching Nunei from the position in which we found ourselves.

I remembered the classic case of the *Girondelle*. This was the only instance of a tragedy above the Da'Elin observed by another ship. The latter had itself barely escaped the strange radio-inert vortex that for a distance of eighteen thousand miles above it—yes, even beyond the Callistan atmosphere—seized everything of matter in its intangible currents and whirled them down to the sea, whirled them down to a steaming sea of boiling surface temperature whose mists obscure the rocky littoral for ten miles inland. It was a grim and forbidding pelagic waste, menacing, mysterious, and believed at that time to be barren of life.

The *Girondelle* and her sister ship the *Joli Coeur*, outbound from Paris to the City of Lleis, had been warned by radio, as we had been, of an approaching meteorite shower. The *Joli Coeur*, heeding the warning, had cut to three-quarter speed. Calculating her arrival after the passage of the shower, the captain of the *Girondelle* had, for some reason driven his ship into the shower with utter disregard for consequences. Diverted from his course to a point above the Da'Elin, he had been drawn rapidly downward until swallowed up in the sea.

The master of the *Joli Coeur*, losing radio contact with the sister ship, proceeded at full gun to the shores of the Da'Elin, in the vain hope of giving aid to the doomed vessel. He arrived just in time to witness the final struggles of the *Girondelle* against the nameless force that was dragging her into the abyss.

The master of the *Joli Coeur* was a gifted raconteur. I had heard him tell the story myself, over highballs at the Cosmos Club. He described with graphic vividness the first straight, smooth course of the descent; how, through his glasses, he could see the blue flame streaking down from the power tubes of the *Girondelle* as she fought to overcome the downdrift; how, under the colossal power drive thus spent, there was no visible check in her progress.

He told how, as she approached the steaming surface of the sea, she began a rapid and eccentric rotation on her vertical axis, exactly as if being sucked down into the vortex of a maelstrom. Revolving more and more rapidly, she struck the sea, and vanished in its mists, leaving only a plume of spray rising high in air—breaking and falling slowly back to mark her resting place.

All this passed through my mind in the instant we stood like frozen images staring at one another over the chart table. I knew that something very like it must be passing in the minds of my junior officers. It was some consolation to feel that only the three of us knew.

I glanced at the atmospheric altimeter. It read a hundred and sixty thousand meters. We had entered the extreme outer atmosphere at normal speed. I slipped a set of headphones over my ears and buzzed the power room.

"Stand by for full gun," I told the quartermaster.

Then, as the engineer snapped his query: "Full ahead—all power tubes."

We braced ourselves, hoping for a violent check in our descent. An instant later a vast, dry metallic sigh swept through the ship, a song of muted, incalculable power. Through the observation port a blinding shaft of bluish light bathed the lank body of Wethered, at my command to stand by for full gun he had slipped his glare goggles over his eyes with a single deft gesture. The jar we had braced ourselves against did not come. And, as I gazed at the set features of Boaz and Halliday, pallid and unreal in the glare, I realized that we were powerless to check our plunge toward the Sea-of-No-Returning.

As though moved by a single will, the three of us gazed at the altimeter. The indicator had moved down the silver dial, and still crept remorselessly counter-clockwise, a hundred forty thousand. And, as we gazed, it read a hundred thirty—twenty—a hundred thousand . . .

Abruptly we became aware that the sighing of the power tubes had become almost inaudible, though the intense glare continued undiminished. At the same time a convulsive shudder trembled through the ship, and recalled to me the axial whirling described in the plunge of the *Girondelle*. I buzzed the power-room for cut gun. There was no sound, no response. But, as my finger touched the button, the glare from the power tubes ceased.

I rapped out an amazed oath. My amazement was greater still when my mouthing lips were able to produce no sound. I glanced at Boaz and Halliday who were mouthing at each other like mutes. But strangest of all was my sure awareness of what they were *thinking*.

There was no conflict, for these men and the forty-two others of the crew looked to me as the constituted authority. I was aware, however, of the bewilderment of my officers and the men of my command, and I willed them to know through telepathy, as I myself began to understand that we were in a region that was as sound inert as it was radio-inert. Henceforth, all communication must be telepathic and by ideas. Only this could explain the instant response to my order to cut the power as soon

as that order had framed itself in my mind.

● Again came the sickening vibration, the faint oscillation of the *Gotham* about her vertical axis. If this should increase very greatly, I knew that the moment we entered the heavy atmosphere the equalization machinery would be thrown out of true, all of us would be crushed within the rotating compartments, or killed outright by centrifugal pressure. The oscillation must be stopped.

I had satisfied myself by trial that the power-tubes were useless. One resource remained—the helicopters used in connection with our heavy gyroscopes to steady the ship at the vertical until we should plunge into the sea. After that, anything might happen—instant death from the terrific shock of impact or by heat if we should float. Yet, in crucial emergencies, I notice, one does not think too much of death.

The helicopters then!

Even as the thought framed itself, I knew the crew had leaped to obey, trained as we were for generations to the communication by telepathic means. On the instant, I knew that my instinct had been a true one.

Though the altimeter's steady drop told us that our speed of fall remained constant, the dangerous oscillation was gone. By the dial reading, which I now know to have been wide of the mark, we were seventy-nine thousand meters above the smoking sea. I understood that, barring a miracle, within six minutes we should join the graveyard to which so many before us had plunged.

My new-found faculty told me that throughout the ship my men were standing to their stations. Wethered had given up the pretence of fanning the controls. Now he, Boaz and Halliday were peering intently down through the observation port at the burnished world below us—the world glowing softly orange through the pale light of our altitude, reaching upward to encompass us with its horizon. I joined them and looked over their shoulders at the jewelled planet we were flying to meet.

So near was it that its bulk filled the frame of the great observation crystal. Here and there, over its face, little showers of sparks flamed into being, burned brilliantly for an instant and paled out. They were meteors entering the heaviside, glowing incandescent and volitilizing by atmospheric friction. At sight of these my heart sank. They brought home to me what our own fate must be should our present rate of approach remain unchecked. Yet, as I studied their areas of distribution more closely, I began to feel some reaction from despair.

My observation was that the incandescent meteorites seemed to be of consistently local occurrence, that the light-stippled, coppery area toward which we were hurtling was entirely free of them. Only one explanation fitted the facts. Either the Da'Elin must be without atmosphere—an impossibility because of its surface temperature—or else it had the incredible property of possessing a normal atmosphere without atmospheric density.

Otherwise, meteorite showers drawn into the vortex must have been dissipated by friction exactly like the others we had seen. This was the explanation that, against all experience and reason, the facts bore upon me. The logical thought following was, that if such a condition prevailed only over the single unnavigable sea of Callisto, what might not be the strange composition of the waters that produced so unique a phenomenon in its overlying atmosphere?

Urged by the concentrated power of forty minds beside my own, a wild glimmering of the truth broke upon me: this was a sea unique in the character of its water. Or was it water? Perhaps we had to do with an element having the properties of a liquid but of a density no higher than that of terrestrial air. And if that were true . . . what?

When we struck the heaviside the entire crew were tensely standing by for action, the instant I should give the word. That, I meant to do just before we plunged into the mist that rose over the sea. Every man, I say, was at his station. Wethered, his glare goggles firmly in place, was standing on the control grating; Boaz and I were staring through dark goggles at the sullen coppery glare that now filled our entire field of vision; Halliday, with his eyes glued to the atmospheric altimeter, was mental announcer for the entire ship's company.

"Sixty-two thousand," came the second officer's silent chant. "Sixty-one . . . fifty-nine . . . fifty-five . . . fifty . . . forty-seven . . . forty-two . . . forty . . ."

The ship was beginning to be uncomfortably warm. Though the pressure was incredibly slight, in consideration of the speed we were making, there was sufficient atmospheric density over the Da'Elin for a dangerous amount of friction.

"Thirty-seven . . . thirty-two . . ."

Little feelers of heat began to pulse along the cold-lighted walls. Wethered's goggles misted slightly. I saw him, from the corner of my eye, raise his hand as if to lift his goggles from his nose and then think better of it. The heat grew intense. Boaz mopped his forehead with a soggy handkerchief. I could not take my eyes from the coppery waste below. It looked as if we should strike in the very middle of it, though of that I could not be certain because of the eternal vapors that obscured its littoral.

Men were crying out in protest to themselves in the heat of their cramped stations. Regret, prayer and bravado were there, and hidden fear. But over all there was a calm, a resignation to fate—a fighting resignation—a degree of cold nerve that approached the sublime. I felt it all telepathically—and they knew.

Motionless, we waited for the crash. We had done all that men could do. Seconds dragged by while we stood tensed and expectant. There was no crash. Hardly daring to hope, I stole a glance at the altimeter. It stood at ten thousand.

And at that instant it came, not a crash but an elastic, bouncing impact. The floor rose up to crush us to itself and press against us. Darkness engulfed me and, as the world went black, I was conscious only of a flat roaring in my ears like the sound of rushing water heard undersea.

CHAPTER II
Nameless Death

● My waking sensation was one of dazed misery. I felt numb, utterly powerless to control or coordinate my muscles. I was aware that I must be undergoing a form of paralysis as a result of shock, and could only pray that it might be temporary. There was no local pain and, as I lay piecing my scattered wits into a cogent memory pattern, I wondered how it was that I was really alive. Or if by chance I was not alive. Perhaps there was after all a grain of truth in the mystic cult of life after death.

As my mind cleared, another odd circumstance pressed in upon my senses—I mean the utter silence. It was like nothing I had ever experienced, altogether unlike the vast silence of outer space; this was crushing, confining, void. I repeat, it pressed in upon me; it opposed to my body a perceptible *physical* pressure; it was a sensation, a fluid force against my skin.

As the thought took shape in my mind, a hope grew from it. If this was an actual and not an hysterical impression, then my sensitivity to touch had returned, and kinesthetic control must be only a matter of minutes. With every ounce of will I concentrated on moving my leg. After several futile attempts the sense of a slight muscular response rewarded my efforts. Patiently I worked with first the responsive leg and then its fellow. Then, resting with the slightest sense of fatigue, I applied myself to my hands, fingers and arms with a patience and feverish absorption born of desperation.

There was a terrible fixity about my head and eyes. Around me was stygian darkness. I wondered if I were blind, or if the darkness were actual. I do not know how long it was before my body began to respond fully to my will, a matter of minutes, I have no doubt in the light of what I have since learned. But at the time it seemed to me a matter of hours. Yet, coordination once on the way to recapture, my recovery was amazingly rapid. A tingling overspread my entire body, a sensation very like that of having one's foot asleep. As it passed off I found myself in fair control of my body again, except for the numbness about my head and eyes.

I raised my hand uncertainly to my face in the blackness, to find out if it were whole. And,—from what that gesture told me, my fear and bewilderment grew. My hand was moving against resistance, a very slight resistance, it is true, beyond the shadow of a doubt. And, just before it touched my face, I distinctly felt the current that it stirred, before it flowed and eddied over my cheek, like a spectral fluid. It was no denser than the rush of air one feels in a slow glide through earth's atmosphere. My exploring fingers paused over my nose and mouth, and were arrested by another warm fluid current stirred by my breathing.

At this, the incredible certainty hardened in my mind. I was immersed in a water-like medium little denser than earth's atmosphere. And I lived. This, then, was the secret of the waters of the Da'Elin, the Sea-of-No-Returning.

I drew a long breath. The sensation was languid, voluptuous, exquisite; the substance I drew into my lungs faintly saline, rich and heavy. It had the richness of muscatel and the heavy smoothness of Anatolian tobacco. There was nothing of the spasmodic thoracic action of air breathing; the contraction was slow, rhythmic, lazily pleasurable. But my sensuous pleasure of the moment was short-lived for, as my fingers brushed over my eyes, they brought me a message of black despondency. My lids were wide and rigidly open, the eyes fixed and unseeing. I was blind.

As if the abrupt blasting of my hopes were not enough, in my blindness, now came the bewildered telepathic appeal of my awakening crew. It crowded in upon my despair, crowding my despair before them:

"What are the captain's orders!"

Swift as light, with a single graphic thought, I brought before them what I had done to mobilize my limbs, but suppressed carefully my last heart-breaking discovery. Instead, I *willed them to see,* and, as my last hope, I willed them to believe that I saw. Perhaps in this eerie, abyssal world of thought-communication, faith might possess the virtue our fathers ascribed to it.

This done, I waited, clearly conscious of the drive of those forty wills, and of the single direction of those forty minds. And I knew that they were breaking free, for they told me, every one of them, like little children who turn to those who guide them.

Boaz, in the face of his innate sportsmanship, was cursing my navigation; Halliday was turning in his despair—technical training notwithstanding—to the mystic faith that his mother had taught him. Wethered was thinking with graceless regret of the last night before sailing which he had squandered in sober and respectable slumber.

Then when a faint, greenish, phosphorescent light first began to penetrate the black paralysis that enveloped my men—I knew of my own returning vision. Then as I lay in the dim, blackish-green twilight, a sinister change had crept into the mental rapport that I had effected between my own consciousness and that of my crew. I felt that somewhere a silent voice was missing, that our collective strength had been diminished, and with it came a shuddering intuition of deadly menace.

Lying helpless and semi-blind I knew that, through the flooded ship in a form unknown to our experience, death had come among us.

● Together we felt in our imaginings the crawling touch of a something that was heavy, slimy, serpentine. Doubtless it was the poor beggar's last impression transmitted to the rest of us by his desperate terror. Some primitive warning bade us be still against the crying out of our tortured nerves for action.

I can never forget the horror of that interval of waiting, that interval of full bodily competency and slowly returning vision. We lay like logs, aware from time to time that yet another of our comrades had been touched and been taken by some fearful thing. Yet we were afraid to stir for fear of drawing its attention to ourselves. Many times, even now, I wake at my own screams to find that in a dream I have re-lived those few frightful moments between the knowledge of the death among us, and the full recovery of my sight.

The rapid recapture of my sight I am at a loss to explain. However, I found that objects were taking shape dimly through the opalescent green medium in which I now found myself.

When at length I was able to struggle to a sitting position and take stock of my surroundings, my first care was for Boaz, Halliday and Wethered. To my great relief, I saw the dim bulk of their figures moving uncertainly by the control grating. To my mental query they responded that all was well. With the assurance that their full recovery would be only a matter of minutes I then turned my attention to the practical question of our own position.

From the slant of the deck on which I rested, I knew that the *Gotham* lay canted at a forty-five degree angle. This meant that the gyroscopically-controlled compartments which divided the ship would be cut off from one another. The communicating companionways that traversed the length of the ship only swung into line in posi-

tions of horizontal or vertical flight. I felt certain that the force of impact had killed the gyroscopes, and that our only chance of reaching the other men in the power, oxygen-control and observation compartments would be by breaking down part of our own erostellion wall.

Thus a labor of hours under the adverse conditions faced us—unless we could open the sally-port of our own compartment, and try to communicate with them from outside the hull. The latter course was the simplest and the quickest, I knew that if the crawling death were to be curbed, there was not an instant to be lost.

A glance at Boaz, Halliday and Wethered showed me the three of them rising to their feet with the odd non-gravitational grace of slow motion; not so much from the pressure of our new medium, I said to myself, as from the enervating warmth of the *aquasphere* (for such is the name that has since been given the element of the Da'Elin).

The double hull that had kept from us the absolute zero of the interstellar wastes had likewise insulated us from the direct rays of the sun above the steaming sea, and from the heat of its surface waters. Somewhere, however, the rapid alteration of temperature extremes, and the impact of landing had told. The plates had buckled and the sea had flooded in, after we had passed the middle abyssal zone and before we had struck bottom, thus further cushioning us against the shock which otherwise would have been fatal. Where we were, as nearly as I was able to judge, the temperature stood a degree or two below body heat.

Somewhere, I had read or heard that the mean temperature of the waters of earth was sixty degrees at the surface, dropping to thirty-five and less at depths of twenty-two hundred fathoms. This gave me an index of our own depth, assuming that in a general way the principles that applied to the waters of earth applied in rough approximate to the Da'Elin aquasphere. For a moment the result of my rapid little sum was too colossal for my mind to grasp.

My estimate told me that, at the best, we were over a mile deep in an unique atmospheric fluid whose atomic components must be virtually weightless. Otherwise the *Gotham* must long ago have been crushed and twisted by force of implosion, and ourselves instantly killed.

I rose to my feet and walked toward the three who were grouped before the great observation crystal. At the present cant of the ship it formed a background of milky greenish translucency that framed my officers as they stood with haggard eyes turned toward my own. The presence of light at such a depth as I had inferred, struck me with a sharp sense of the anomalous. In terrestrial waters light did not penetrate deeper than five hundred fathoms.

On forward movement I encountered a slight resistance. But there was no sense, whatever, of uncertain balance. I felt as firmly stanced here, as ever I had on earth. There was no waning or impairment of gravitational balance, I repeat; there was simply the sense of resistance by the greenish, misty element through which I moved. It was like walking in a light mist against a twelve-knot breeze.

● It was a satisfaction to know, as I joined my officers, that my thought was the common thought, my observations the flashing sum of all observations. There was a completeness of understanding utterly foreign to the world we had known. And there was no conflict.

We had become, in literal fact, a single driving intelligence, functioning through separate bodies, for the common good of all. I was the leader by force of circumstances, and, by leader, I mean the focal point of the common will. My decision to creep out through the control-room sally-port and make contact with the rest of the crew forward, was known and accepted as soon as the decision was made.

Without more ado, we rummaged the lockers for wrenches, and went to work on the thick turnscrews that held the sally-port of clear erostellion to its sponge-fabric hermetic washer.

There were six of these spaced at equal intervals along the three free edges of the port. The fourth side pivoted on the usual massive hinges. Wethered and I applied our wrenches to loosening the locked screws and breaking the safety-wire while Boaz and Halliday spun them off the threads. We were on the last two when, by a common impulse, all of us straightened and exchanged glances. Then we bent to our work with feverish energy. Again the chill, crawling horror had touched us with its heavy coils; again, the silent cry of mortal agony; again, the sense of lessened strength. We knew that once more the nameless death had struck.

As the last screw fell away, striking soundlessly on the steel deck, we tugged at the port. It swung open and we stood on the threshold of our new world, a world of diaphanous gold and green, misty, and in its sinister way, strangely beautiful. A slow current stole by us through the open port, like a voluptuous caress—warm, languorous, enervating, as it did, a long shadow writhed across the riffled blue ooze of the abyssal floor. Fascinated, we watched the thing trail the record of its incredible length in shadow as it swam above us. Then, by one consent, we put our shoulders to the door and swung it shut. As we sagged against its polished surface I stole a glance at Boaz. He had mechanically drawn his handkerchief from his pocket and was mopping his brow.

It was a useless gesture, automatic, commonplace, yet subtly restorative. It galvanized me to action, I cannot say how. In half a minute I had broken out the pair of emergency axes over the instrument panel. Wethered chose a wrench to his liking, and Halliday picked up the eight-pound rivet hammer. I passed one of the axes to Boaz. Then, without giving ourselves time to think, we swung the port wide and, in an instant, were foundering almost knee deep in the ooze of the sea bottom.

As we struggled toward the bow of the ship, feeling our way along the sheer of her plates, we began to bless the softness and depth of the ooze we had previously damned in our souls. It had deadened the final impact and had very likely been the deciding factor in the preservation of our lives. We found it more springy than viscid, once we had the trick of walking. We saw, as we came abeam of the power-room, the next forward to the control-room we had left, that from amidships forward, the entire ship lay buried in it to a point halfway up the observation crystals of all the sally- and cargo-ports. Fortunately the power-room sally-port stood clear.

Even as we reached the port it swung inward and a figure I recognized as that of Fleming, the chief engineer, edged into the opening, holding in readiness a formidable spanner. He grinned his relief at the sight of

us. With his engine crew he stepped out and followed as we continued along the cargo section to crew's quarters and the oxygen-control room.

Here the side port lay sunk below the surface of the ooze. Accordingly, the men formed a pyramid, and by it Halliday and I scaled the side of the *Gotham* and clawed our way to the skylight. Clinging to the polished plates with fingers widely spread, we bent close to the great oblong of transparent metal and stared down into the compartment below.

In the shifting light above and around us, it was hard to see much more than what lay directly under us, at first. Little by little, however, our eyes accustomed themselves to the dimness of the interior until we were able to make out the great wheel for gyroscopic control, high upon the wall opposite a ladder grating. Then the oxygen, cargo and air-lock levers pointing stiffly from their slots in the forward bulkhead. Squarely below us stood the auxiliary space-binnacle. I could see the greenish glitter of light reflected from the polished brass of its bonnet.

And then the spasmodic clutch of Halliday's fingers on my arm directed my attention to something else, a limp, pathetic something huddled against the base of the binnacle, the body of a man.

We dropped prone and flattened our noses against the crystal, making blinders of our hands. This was better. The room and its contents now assumed fairly definite shape. I was able to make out an axe in the hand of the man by the binnacle. Our questing eyes found other lifeless human forms; two more lying across each other under the cargo-levers, and several more crumpled or sprawled at the entrance of the blocked companionway that led to the power-room amidships.

And as I looked down into that milky, opalesque play of jade and gold, and saw the still forms of the men I had commanded, a queer paralysis of terror stole through me. Somehow, I knew that down there a living soul was crying out to us for the help we were powerless to give, and that we could not leave him to die alone.

For minutes nothing stirred in the eerie chamber of death, then an inky black shadow crept from the body-choked cargo-companionway. It reared its flat head from the plates and gazed fixedly at something hidden from us in the misty opposite corner. With desperate speed a man dove across the deck and snatched the axe from the nerveless fingers of the corpse by the binnacle. Startled by the sudden forward movement of the sailor, the crawling death drew back a little, tensed and waiting.

The doomed sailor climbed up to the gyroscope control grating. For an instant his terror contorted features turned to ours as he swung the axe in a maddened attempt to crash through the clear metal that barred the way to life. Then the black horror writhed into the light. We could not see it distinctly, only that it was perhaps eight feet long, heavy and flat, of the thickness of a man's calf. It moved across the deck with a gliding, serpentine motion, sickening to watch.

The sailor saw it, too, in a quick glance over his shoulder, and instantly turned to face it with a gallant little gesture of farewell to us. I understood that his instant of panic, when he thought himself alone, had given way to cold, fighting courage. He was on his mettle, and the almost jaunty quality of his parting flick of the hand spoke a sort of satisfaction in his gallery. His was determination to make his last stand a show worth seeing. One such moment in a lifetime lends dignity to the accident of being a man.

The serpent advanced sluggishly to the foot of the grating and reared its head some four feet in the air. It weaved slowly, from side to side, as though feinting for an opening to strike.

The advantage of position was with the sailor. He held the grating which stood two feet above the deck and had the gyroscope control wheel and its box squarely at his back. With the axe extended at half arm's length before him in instant readiness to strike or parry, he waited for the serpent to lash out.

A momentary pause of the black head. Quick as thought the axe whirled in a flashing, bluish arc and the creature's body writhed in two heavy, knotted coils lashing the floor. I could see the metallic white shine of its scaly belly like water-filtered light on mother-of-pearl.

For an instant the man on the grating watched the obscene thing on the floor. Then he looked up at us with a grim, exultant expression on his face. Suddenly that face was blotted from our sight as a second black coil unwound from the top of the gyroscopic wheel box at his back. Needle-fanged jaws with lightning savagery tore out his throat and bore him apparently by sheer crushing weight grotesquely whirling to the deck.

Halliday and I dragged ourselves away from the skylight to the side of the ship away from the waiting crew, and there we lay for several minutes. Not that we wanted to, but because we had no choice. There are times when even veteran air-sailors find themselves suddenly and violently sick.

CHAPTER III
The Sea-of-No-Returning

When we scrambled down the smooth side plates of the *Gotham* into the arms of our waiting comrades, an instant sufficed to communicate to them the fearful tableau we had seen. We were satisfied that all survivors were now together. The common assumption was that one or more keel plates of the gyroscopic or cargo compartments had buckled when the ship struck, and that the sea-worms had made their way through the opened seams, or had been carried in by the rush of the aquasphere. Clearly they were creatures of the ooze in which we stood, and we lost no time in getting back to the after control-room. It was not only fairly large but, better still, had no intricate machinery in which unpleasant visitors could conceal themselves.

Once inside, our first act was to line up the men and call the roll. Thirty-three were present, including Boaz, Halliday and myself. Eighteen of us were armed in a fashion with axes, hammers and wrenches. Somewhere, I had a decoordinator pistol of fairly recent make but I doubted its efficacy in a liquid medium. For our purposes, the hand weapon was unquestionably the thing and, in our silent conclave, it was agreed that to fashion such weapons was the first thing to be done.

Fleming and five expert machinists at once volunteered for the duty and I sent them under escort of four men with axes to the power compartment with orders to seal the entrance to the cargo compartment, carefully reconnoitre for concealed sea-worms, and then get to work at once on spears and chopping-blades for the whole ship's company. It was a large order for what remained of the day, but we had shop machinery for ordinary repairs,

and an abundance of duralumin and erostellion in the body of the ship itself.

I ordered haste, for I did not know how long the light would last. Mindful also of the frightful end of our comrades in the gyroscopic and oxygen control room, I was determined that darkness must find us with our forces united.

When the armament detail had left us and reported all secure, and the sea door was once more closed with a watch set by it, I ordered Wethered and Fleming to divide the command between them. One was to inspect all plates for openings through which the serpents might find their way, the other to make fast the port that led from the control room to all forward parts of the ship. With my two juniors I then rummaged the chart cabinet for everything there was bearing on Callisto and the Da'Elin.

We found nothing that our own bitter experience had not taught us. There was no indication, for example, that the character of this water differed in atomic form from that of the earth. There had been attempts at electric soundings from heights above the danger area, but these had been uniformly unsuccessful because of the radio-inert character of the Pelagic zone. The few short paragraphs we were able to turn up closed without exception with the conventional warning to all ships to give the Da'Elin a wide berth.

Charts were hardly more helpful, giving only the approximate coastline of the Sea-of-No-Returning, and a printed warning with surface temperature, and a note of electrical conditions encountered by ships in its vicinity. We were lost in the abyssal plain of an uncharted mysterious sea, cut off from the land by a surface layer of fluid near the boiling point, and hedged in by dangers utterly foreign to human experience. Without knowledge of location or the means of gaining such knowledge—for all of our compasses were now at odds—we would have to revert for protection to the weapons of primitive man, and explore on foot, at random.

We should not have even the assurance that we moved constantly in one direction without circling back, for there would be nothing of fixed position like a star or mountain to guide us. Take it how you would, our position was desperate in the extreme. In our hearts we despaired, but the love of life in healthy men is strong, and we went about our preparations with a cold efficiency that surprised even ourselves.

By the time that Boaz, Halliday and myself had exhausted the resources of the chart cabinet, both details had finished their respective missions and reported all secure. By this time, the light outside was showing signs of failure, and I began to feel anxiety for the well-being of my men in the power-room. Collectively, we willed their return and, a few moments later, they were trooping through the sally-port, carrying in their arms rough blades and spear points, lengths of duralumin piping for hafts, and a miscellaneous assortment of tools.

Thanks to the cold light which had been fused into all interior surfaces of the control and power-rooms, we suffered little inconvenience when darkness closed down. The men worked over their weapons under the direction of Wethered and Fleming, while my officers and I mulled over the question of what to do next.

To stay where we were was obviously out of the question, the *Gotham* was, for all purposes of navigation, a total loss. Our short outside inspection had made that clear. If we ever hoped to win our way back to dry land again, we must leave the ship and put our forlorn hope of escape from the Da'Elin to the test as soon as the men had finished making their weapons.

The question of food worried me, also, for we had not yet made the discovery that was to set that fear at rest. I despaired at the thought of the boiling upper layer of the sea. But that was a bridge to be crossed when arrived at.

Our immediate concern was how to keep our direction after we had left the ship. I knew by experience how men, lost without a compass or landmark to guide them, wandered in circles and returned again and again to the starting point. I had done this myself on hunting jaunts in Maine and Northern Ontario. This problem communicated itself to my junior officers, and we sat in the queer intelligent silence of the Sea-of-No-Returning racking our brains for an answer.

Wearied with the frightful strain of the four hours past, I was only able to force my mind to the matter in hand by a conscious effort of will; now and again my thoughts would leave me wool-gathering, in spite of myself. A sensation of lassitude and weariness stole over me. Thoughts rebelled and ideas would not come. The feeling of buoyancy, the blood temperature of the water, the sudden cessation from strain were making themselves felt.

I looked about me and saw the familiar faces through the faint bluish haze—a dreamlike effect. The soundlessness of their industry, with tools one associates with sound; the motions of their hands and bodies swaying over their work, moving with slow grace against the resistance of our new element—all were dreamlike. Even the changing refraction of the light as seen through the currents set up by the moving of the men seemed unreal. . . .

I drove my thoughts back in to line. *Direction!*—How to keep direction in our march across the Abyssal Plain!

Compasses? I had thought of them a hundred times with a fleeting, worried sense of being on the trail of a solution. The Da'Elin was radio-inert. That meant that the compasses would be without point to guide them. I had verified the truth of that not an hour since.

"Magnetize the Ship."

The inspiration literally blazed into consciousness and I looked up suddenly to find Halliday's eyes burning feverishly into mine. The magnet! What fools we had been not to think of it before.

As one man we rose from our benches and drove in a flying wedge for the central control-board. Halliday switched on the reserve generator gauge and spun the power-control wheel. The indicator needle crept up the dial and stopped quiveringly at 27,000.

We exchanged triumphant glances. The ship still had its full power potential in the reserve turbine generators.

I opened the signal locker and took from it an earth compass, moving it in my hand until the needle pointed toward the sally-port. Breathlessly we bent over it. The needle in its oil bath turned sluggishly until it pointed forward toward our magnet.

Again we exchanged glances of half fearful triumph.

If the magnet with power off attracted the needle, the attraction when our enormous potential was on would be certain. It was possible, therefore, that, grounded at our depth, the radio-inertness of the Da'Elin was not absolute. We could not be certain that our plan would be feasible, however, until we had tested the compass from some point outside the ship. There was no surety, even then, that the attraction would be effective at a distance. But the experiment raised our hopes and for the moment we were frankly exultant.

It occurs to me, at this point, that I may be taking a great deal of technical understanding on the reader's part for granted, even in this day when interstellar travel has become so matter-of-fact. At the risk of boredom, therefore, perhaps I ought, from the navigator's point of view, to explain the nature of the magnet that fired us with so much hope, and played so vital a part in our journey through the deeps of the Da'Elin.

It is a commonplace that the hardest part of any interstellar voyage is the landing of the ship. This maneuvre must be made with the ship in the vertical position, its nose pointing straight into space. Speed under normal conditions is cut down to two hundred miles, on dropping into the atmosphere, to provide an ample margin of safety against gravitational drag, and to prevent the carrying away of the helicopter screws by atmospheric resistance.

At this writing, the science of ethership design has not yet reached the point where it is practicable to navigate in the atmosphere in a horizontal direction, hence it is necessary to rely on magnetic influences, radioed from the point of destination, to draw the space ship down to her berth.

The surface of the planet of Callisto, like that of Earth, Venus, Mars and Jupiter is divided into quadrants, and centrally placed in each quadrant is a powerful radio-magnetic station. Every ship is likewise equipped with a radio-magnetic plant attuned to that of the quadrant station to which it is bound.

Each ship makes for a point above its quadrant of destination and, at a distance of approximately eight thousand miles' altitude, noses up into the vertical or landing position and polarizes its magnetic potential. The attraction of the planetary magnet of the underlying quadrant then becomes effective, and the ship is drawn downward to its berth by the drag of the radio-beam. The force of gravity is compensated for, from the ship, by a graduated flow of power, the action of its helicopter screws and, after it has reached the lower atmosphere, the polarization of its magnetic charge which acts as a repellor influence against the ground magnet.

It was upon our landing magnet, therefore, which through our turbine generators we could polarize or depolarize at will, and with an effective radius of nine thousand miles or three times the diameter of Callisto, that we pinned our hope. If, by charging it to the full we could create in the abyss an artificial pole for our compass, we might hope, to keep a constant direction in the course of our blind progress.

CHAPTER IV

The Great Graveyard

● I must have slept like a dead thing for the twelve hours that followed, because the next thing I remember was my awakening in the faint unreal light of the abyssal morning. My companions were already astir. My first thought was breakfast and, as I turned out, the men were already lining up in response to my soundless order. As Wethered made the routine roll call, I began to realize with a certain bewilderment that I felt not the slightest sensation of hunger; that this applied not only to me but to every member of the crew. At the same time I became freshly aware of the rich quality of the act of respiration which had struck me with such force on first awakening. There was only one conclusion. We were inhaling our nutriment in the form of microscopic or submicroscopic plankton. Here in the depths of the Da'Elin was a realization of respiratory nourishment so long the dream of earth's specialists in dietetics.

With this realization, I glanced along the line of hard devil-may-care faces before me. Their eyes met mine levelly with a glint of mingled interest and amusement. Our problem was simplified by so much the more. There would be no question of food. Nowhere, did I see any trace of surprise. Thirty hours on the bottom, added to the simple fact that we lived, had put us beyond any show of that.

Our sole problem was now that of escape, and the first condition to making our way safely across the vast sea floor was the magnetization of the ship. To this end my officers and I acted at once.

With a nod of understanding, Wethered took his station at the reserve power control panel. With a few deft movements of his hands, he charged the ship's magnet, polarizing it to absolute capacity. As I passed the space binnacle on my way to the signal locker, for my earth compass, I glanced in. The needle pointed with rigid fixity to the ship's magnet.

I found my compass again and turned toward the sally-port which the watch held ready to swing ajar. At my heels followed Boaz and Halliday, each with his axe. I curtly directed Boaz as first officer to remain in charge. He dropped his axe and turned reluctantly back. Outside the ship and a few yards away in the thick ooze, a backward glance showed me two figures following me still. Wethered had taken Boaz's place.

Moving clumsily over the springy surface of the bottom, we made our way through the green haze of early morning. Behind us, the hull of the *Gotham* melted into the drab background that closed in around us on every hand. Before us, huge shadows moved eerily against the jade perspective, shadows that took the form of colossal fernlike sea growths spreading their lacy fronds hundreds of feet above us. As we reached the first of these, the ground became firmer underfoot.

In the rapidly strengthening light, the enormous strangely waving tree-things materialized out of their background as by magic. By twos and threes, and beyond the first scattering of them they appeared—a horizontal line of dazzling brightness. We made toward this rapidly and, a few moments later, we found to our delight that it marked the beginning of a new sea-floor of hard white sand over which the lacy shadows of the fronds, high above us played sinuously.

We lost no time now in examining the compass. With an intensity of delight that beggars expression, we stared for minutes into the little box that held our hopes of winning free. Change it as we would, the needle held true to its bearing, pointing rigidly along our back track

to the ship. Do not misunderstand me. We knew that this success was an initial victory only. What dangers and hardships, what setbacks and disappointments our forth-faring held in store, only the gods of the abyss could know. But we had strength and hope and, thus far, fortune had shown us favor.

We lost no time in returning to the *Gotham* without further reconnaisance, and a moment sufficed to appraise the other men of the success of our test. Thanks to the fixed direction of the needle, we had followed a bee line back to the ship.

Boaz held all hands in readiness for immediate departure. Preparations had been of the simplest. The men carried only what they had on their backs, and their weapons. My juniors and I took along the ship's log and one or two of our smaller instruments. Our axes were slung to our wrists by a stout lanyard, ready for instant use.

One by one, we filed out of the sally-port which Wethered and two of the machinists secured from outside with a powerful suction lock. This would prevent the invasion of the ship by any blundering creatures that might impair the function of the magnet.

We had agreed on the order of march before leaving the ship. The main body moved in column of fours with a point of two men marching ten paces to the front—that being the limit of clear visibility—and a rear-guard following at the same distance. Wethered took his post midway between the rear file and the rear guard; Boaz and Halliday, one on either flank. I led the point where, with my compass, I could control the direction of the march.

We headed straight for the frond forest with its white sand floor, for I had no means of telling how far in other directions the sinister ooze, through which we were floundering extended. Five minutes of labored walking brought us to the abrupt ending of the mud bottom at approximately the point we reached so short a time before.

● On the hard sandy plateau we were able to make much better speed, but hardly had we passed the spot, where I had tried the compass, when the marine forest grew denser. Soon the shadow of the interlaced foliage so filtered the light that we moved in a darkling world of eerie greenish amber. Boaz and Halliday were now barely visible to me or to the main body of the crew through the gloom.

I ordered them in behind the point and it was not long after this that I glimpsed directly in our path a row of colossal curved pillars arching upward, gleaming ghostly white, to lose themselves in the canopy of foliage overhead.

The men would have crowded forward but an arm signal from Boaz held them in formation. With Fleming and another mechanician, who had the point detail, I hastened forward.

Not until we came to the foot of the thing were we able to comprehend it—I use the word *comprehend* advisedly—for what it was: the stripped bones of a monstrous fish.

We halted at the base of one of its smaller ribs which lay rockerwise, half buried in the sand. From our position we could glance along a row of the vast bones similarly embedded at mad angles, the further ones obscured by the haze. The mere size of the thing passed belief. It was like looking along the wrecked framework of a small freighter on a misty day.

Idly I struck at the base of the rib with my axe. To my amazement, the blade crashed through the surface as if it had been eggshell, and the awesome white shaft toppled like a felled tree to shatter into countless fragments on the sea floor.

Boaz's signal now forgotten, the men crowded forward to examine the strange bone. Its shell was paper thin, and the inner bone and marrow were composed of large hollow cells having walls incredibly fragile. Halliday lifted up a splinter of the bone five times as large as himself and balanced it easily on two fingers. He dropped it and it shattered like a teacup of thinnest porcelain.

Thoughtfully, we resumed the march. As we left behind us that monument of nameless tragedy, I wondered how we should combat a live specimen, whose mere size, was enough to make it a frightful menace. I pondered on the lightness of the gigantic skeleton. Obviously, I said to myself, great surface over light structure must serve in this low-density water a purpose analogous to a balloon in terrestrial atmosphere. This would explain also the absence of smaller and heavier fishes.

The only such fishes we might expect to find in so rarefied an element, must be winged. The greater creatures, we should be able to destroy or at least drive off; it was against the heavier winged monsters of my conjecture, and the stoutly built sea-worms that we must be on guard. Clearly, here in the abyss, the greatest menace *was not that of size but of density.*

As we penetrated more and more deeply into the marine forest, the vast skeletons became more and more frequent until, by the third hour of the morning, we found ourselves in a veritable mammoth boneyard, a maze of white shafts glimmering upward to meet the canopy of the undersea wilderness. I now kept my compass every instant before my eyes and, realizing the futility of attempting to maintain our original order of march, I changed from squad column to column of twos and cut down the distance of point and rear guard to five paces.

We had come to a place in the labyrinth, where we were able to continue the march only by crashing through the confusion of brittle debris with our axes, when our attention was attracted by a gradual brightening of the strange coral gloom. By one accord we stopped and looked aloft. High overhead, a colossal shape, faintly luminous, faintly iridescent, appeared vaguely in its descent toward the lacy vaulting of our wilderness.

Slowly it drifted down; slowly its outlines sharpened until the monstrous fish—for such it was—came to rest above the great scarlet flowers that sprang orchid-like from above the fronds.

With vast diaphanous fins fanning in slow rhythm, it hung poised, a monster beyond the wildest dreams of men; elusive, iridescent lights playing subtly along its dead white belly. Floating leisurely, it browsed through the gargantuan garden under whose fronds we crouched, fearfully watching. And even as we looked, the behemoth, as though drugged by its mere proximity to flowers, stiffened. It quivered convulsively, then relaxed and sank slowly to the sea floor through the

tangled fronds. Here it came to rest, pierced through in a dozen places by the bones on the white sea floor.

Startled by the suggestiveness of the incident, I stooped for a handful of sand, and examined it as it sifted through my fingers. It was almost pure calcium. The very sea-bottom, we trod, had been formed from the decay and attrition of these creatures' bones!

Absorbed in my discovery, I had for the moment lost sight of the tragedy taking place so near us, until the sharp pressure of Halliday's fingers on my arm directed my attention to its final grisly stage. The long, mossy filaments that draped the trunks of what we had thought were trees, had begun to move. Sinuously, as though stirred by some gradual current, perhaps by the downwash drawn in the wake of the great fish as it sank, they floated, unwinding to surprising lengths, and fastened upon the body of the prey, growing stationary with horrid, suggestive stillness.

I wondered no longer at the lifelessness of the area through which we were passing. It was no forest we were in, but a vast colony of enormous sea-anemones—so we should name them on earth—animals that attracted their prey by their deceptive likeness to harmless vegetable forms. As we hastened forward, I prayed feelingly that the druggy emanations from the swaying blossoms would take an upward direction, and that we should be spared the slow paralysis and the lash-like tentacles, armed with their myriad tiny suckers.

● For two hours more we forced our way through the mazy forest of death. While the towering trunks of the anemones grew more and more dense, the light grew more and more obscure. Then I called a halt, to send relief to the two men who formed the afterguard. For this duty we assigned the first file of the main body and, as the men dropped to the sand for a few minutes of relaxation, the new detail moved back to the rear.

No sooner had they vanished in the murk than the odd creepy sensation I had experienced during my return to consciousness in the ship assailed me. I strained my eyes against the opacity that veiled our back trail. All heads turned, as of one accord, in the same direction. And, as we looked, the two men who had gone back to relieve the vanguard, stumbled into view in frantic haste, turning to beat away the slender tentacles of the anemones which the current drew after them. As they whipped at the feelers the long ciliate tentacles wrapped about the hafts of their weapons and clung there by their suckers, while other tentacles, attracted by the disturbance, floated sinuously toward the struggling men.

The rest of the party had sprung to their feet and it took the strongest effort of will to stop their instant surging toward their desperately struggling comrades. I realized at once that such a course would inevitably entangle all hands in the horrible down drift of writhing feelers. Our only hope was to divert the center of disturbance into several strong currents radiating outward, in the hope that the tentacles would be drawn away from their present converging tendency.

On the instant, Boaz, Halliday and Wethered darted outward in different directions with utter disregard of personal safety, vanishing in the murk and creating in their passage three outward currents which the tentacles in our immediate vicinity sluggishly streamed toward.

The two rear guard men, realizing their danger, had flung their entangled weapons from them and moved carefully into the main body. By waving our arms we managed to maintain a continuous outward current that bore away the floating menace until my two officers and quartermaster, creeping along the sea floor, had rejoined the party.

I was more shaken by this experience than I should have cared to admit, and ordered an immediate counting of noses. As I had feared, our two original rear guard men were missing. Our intentness upon the problem of keeping direction, and crashing our way through the jungle of death, had closed from our minds any telepathic "S O S" they might have sent.

Wethered stared morosely down at his feet. I knew he was kicking himself for his failure to note the following drift of the wire-strong feelers that had cost us so dearly. His usually impassive face was screwed into a grimace of bitter self-reproach. We were a dejected body of men as we doggedly resumed our journey.

My one, never-ending source of satisfaction was the persistency with which my compass needle kept to its pole. As nearly as I was able to judge, by the standards of earth, we had been going now for about six hours and in that time had covered perhaps twelve miles. I began to think that the horrid jungle, through which we were fighting our way, was interminable. At the same time it seemed to me that we must be approaching the twilight of the undersea day, and I was by no means enthused at the prospect of spending the night within reach of the deadly feelers, of whose quality we had had such grisly evidence.

As I pondered the problem of what precautions would be best, against the dangers of the night, I fancied I saw, between the interstices of the tangle ahead of us, a sort of brightness. As we made toward this, with growing hope of finding the forest's end, the light brightened, and we burst abruptly into a clearing. The sand here showed mottled in color, and a cursory examination suggested that the darker patches might have been caused by the decay of anemones which, not so long ago, must have covered this area as thickly as they covered the wilderness we had traversed. I wondered by what freak of nature the giant growths had been destroyed just here.

Once fairly within the clearing, I gave the signal for another rest period and, as one man, we sank gratefully to the sea floor. For perhaps fifteen minutes we sprawled at our ease, surrendering ourselves to the reaction from our frightful journey. The enervating warmth of the "water" relaxed our limbs and sapped our energy, and I noticed that several of the men were nodding with weariness.

I was seriously debating in my mind the advisability of letting our party sleep for the rest of the day, when I saw Halliday stiffen and stare intently at something that lay beyond my range of vision. Quickly he rose to his feet, strode to the object, whatever it was, and began scooping away the sand. An instant later he stood up again, turning a large round object in his hands. I stared incredulously, then sprang to his side. The incredible was true. Here in the abyss of the Da'Elin he had dug from the sand a human skull.

Boaz and Fleming were quick to join us and in no

time at all the entire company had gathered at the spot. Carefully, we scooped away the sand, uncovering the entire skeleton with fragments of clothing whose color had faded to an indeterminate hue, and a single gold button bearing the Zodiacal device and the interlaced initials "T F I" of *Transportation Francaise Interplanétaire.* A metallic gleam that had escaped the other searchers caught my eye, a fragment of chain. I picked it up.

Attached to the broken circlet was a tiny locket which I opened. The face of a girl looked out at me in exquisite miniature. It was not a beautiful face, but there was something infinitely sweet, and winsome and wistful about it. It was womanly, with a strength of spirituality and high courage that stirred me more deeply than I should have cared to admit to my co-pilots. Obedient to an impulse which I could not have explained, I snapped it shut and thrust it covertly into my pocket.

Above the soundless telepathic hubbub of conjecture that followed our find, one idea stood out clearly. Somewhere in our vicinity, perhaps in the wilderness behind us, perhaps within the clearing on the edge of which we stood, was the wreck of a T F I space liner. Of the two possibilities I favored the clearing, for I knew that the release of atomic emanations from the down-whirling liner's power tubes would have sufficed to destroy all organic life for a very considerable area about her.

The presence of such a derelict would mean partial shelter for the night if we were able to find her. But the light was beginning to fail; and, if any search were to be made, we should have to be brisk about it.

To cover the widest possible sector, I disposed the men in single rank, maintaining contact by having each man grasp the end of the next man's weapon. The line was guided by Halliday and Boaz who took their posts as end men, while, from my position front and center, I continued to indicate direction with the aid of my compass.

We went forward rapidly. Before us was the mystery of darkening green opacity. So murky was it, now, that a rapid glance over my shoulder disclosed only the three men to right and left; the rest of the line was hidden from view. I peered forward, praying to whatever power ruled the depths, that we should find the hulk before total darkness closed down. And it was just then that once more the eerie intuition of impending danger touched my heart. It was the more chilling because I sensed a like prescience had come to every man of us.

Terror gripped me, and in that instant I could have screamed for sheer nervous tension when, like a faint beacon of hope, I saw a blur of light far to the left. Others had seen it. A rapid backward glance showed me the line as it changed direction. Then a shadow swept downward at a frightful speed. Warned by the sixth sense that had served me in such good stead, I was barely able to glimpse it in time, and to swerve slightly in my stumbling progress. The attacker catapulted *upward* from my shoulder, the stunning force of its impact throwing me flat upon my face.

Men rushed past me toward the light. As I scrambled to my knees I saw other sinuous aerial shapes darting downward through the gloom. A bulky form stumbled over me and we went down together. As we did, I had a close view of one of the creatures as it swept by, carried by its own savage momentum. I saw its sinuous fishlike body, armed with jetty scales, its glittering wings moving in a blur of speed. For a fraction of a second its murderous little eyes, red and luminous like a saurian's, glared into mine; and its undershot jaw, armed with sharp black teeth, snapped with the rage of missing its kill.

It was a sight to put the fear of God into any man's soul. I sprang up, dragging Nucci to his feet—that was the man's name—and together we ran, the fastest hundred yards of our lives, bringing up in a tangle of our companions under the sheer of a great space liner that lay half buried in the sand.

Gasping and exhausted, we leaned for an instant against the satiny outer hull of erostellium while the nightmarish school of winged monsters circled outward. In that moment of respite before the battle, an upward glance showed me the nature of our beacon. Above us in luminous letters as high as a man, letters such as space ships use to blazon their identities against the interstellar gloom, was the legend *T. F. I. Girondelle.*

CHAPTER V

The Wreck of the Girondelle

● Our respite was a short one. Frightened by the brilliancy of the cold light under which we had gathered, the winged creatures of darkness had withdrawn for a little distance. They hung poised in a semicircle about us, their little eyes shining savagely out of the murk. Now and again one of them, bolder than the rest, would wing its armored body toward us, darting abruptly away as two or three of us sprang forward with whirling axes.

Nucci, Brian and Dutch, the three stormy petrels of the party—ever divided in peace and united in war—shouldered the other men into order of sorts. They were natural leaders of the bucko variety, cocks of the forecastle, and owed no obedience to any of the crew except Wethered. The latter had a cold nerve and a quiet determination that tamed the most unruly of men.

They were not a moment too soon, by a preconcerted signal, the winged wolves of the Abyss made a rush. The few seconds of frenzied action that followed seemed to me an age of living nightmare. I have only a hazy memory of detail, of contorted faces, straining torsos, a dull pain and violent wrench at my thigh. I remember the savage exultation that surged through me as I felt my axe shear the tough flesh and living bone of the thing that had fastened upon me.

Then a sabrelike blow across my cheek and a streaming, shadowy form that flashed by me. One of the monsters that someone struck down—Barney I think—dragged itself along the sand with broken wings. A blow of my axe finished it.

Warned again by the instinct that had served me so well, I dropped to my face on the sea floor.

Something flashed down from above and the man next to me sank to the sand, as if poleaxed, with his belly horribly torn. A glance sufficed to satisfy me that he was done for, though I lacked the strength to care very much. I choked with the heavy breathing that exertion brought in the aquasphere. I struggled to rise to my feet only to sink helplessly back. My strange world whirled about me, all I could see was the semicircle of

redly glimmering eyes and I judged that we had beaten off the monsters. They were waiting—waiting.

I moved feebly again and twisted toward the wreck of the *Girondelle*. Men bent over me and lifted me up, and it seemed to me that we were moving toward a light in a way that was more dreamlike than real. My last conscious thought was that surely this must be the end, for the light we approached was not the cold lettering along the sheer of the space liner.

It was a doorway and, silhouetted against the radiance that shone through it, was the grotesque figure of an old, old man, and the slender form of a girl. Then I knew only a spreading dulness of pain that centred somewhere about the thigh, knew sudden deathly nausea. After that, consciousness mercifully passed from me.

It seemed only a short time—though it had been a matter of hours in reality, as I very soon found—before I awoke. About me were the familiar features of a space liner's wardroom. The tiers of bunks, the long, stationary table and benches of satiny duralumin all stood out in angular relief against the cold-light surfaced walls. For an instant the thought came to me in that dazed condition, that the loss of the *Gotham* and her cargo, the march through the undersea wilderness, and the frightful struggle with the winged merwolves had been the figments of a fantastic dream, that in a few minutes Halliday would buzz me for the captain's watch.

This illusion was momentary, however. The faint greenish haze that stained the whiteness of the light and blurred the outlines of the gear, the familiar heaviness of the respiratory act, and a sense of overpowering weakness testified mutely to the fact that, we remained still upon the sea floor of the Da'Elin. At the thought, I felt frantically for my compass case into which I had thrust the compass in the hectic moment of sighting the light and our savage attackers together. Both compass and case were gone.

Frantically I swung out of my berth, only to be brought up sharp on the edge by the uncompromising stiffness of my left leg. Gingerly I explored it, and and it was then that I made a second disagreeable discovery. My clothes were gone. It may seem irrelevant in the circumstances, but my main thought, in that instant, was of the little gold locket and of the sweet wistful face inside it.

I turned back the leg of my voluminous pajamas and disclosed a carefully bandaged area of thigh. A slight flexion and extension of my leg convinced me that what ailed me was more weakness from loss of blood than any impairment of function. I rose shakily to my feet after satisfying myself by a step or two that I was fit for Shanks, navigation, I staggered the length of the wardroom to the forward bulkhead port. Beyond this I knew, with the prescience born of our new medium, that I should find my men, and hoped devoutly to find my compass and my clothes as well.

All the crew were there. All, that is, unless it be proper to except three rigid shapes that had been men, lying side by side under a tarpaulin inside the room to the left of the port I had come through. At my entrance everyone present stopped the business of weapon repair or patching one another—for there was scarely a rogue of them who was not cut or gnawed somewhere —and turned to stare at me as if I had risen from the dead.

"Where's the compass?" shot from my mind to theirs. "And where in hell are my clothes?"

Boaz pushed forward from the crowd of haggard scarecrows. I noted with a sense of relief, that beggars description, my case hanging by its strap from his stocky shoulder. To satisfy myself utterly, I snapped open the cover and took out the instrument. The needle held true. The thought in Boaz's mind flowed smoothly into my own.

"We thought you'd make a die of it. Touch and go. Bad medicine, those brutes. Three gone west as is. *She* fixed you up."

● Now all of this in its matter-of-factness was very typically Boaz. But there had been a warm glint of satisfaction in his eyes when he saw me on my feet again that told me more than words. And who did he mean by *she!* Back came the hazy memory of the slender figure in the lighted doorway and I thrilled to it. I swore a little at my sentimental weakness and put the question of "she" aside for the moment. People say I have a one-track mind. That has its advantages. Again my query went out:

"Where the hell are my clothes?"

Again from my first officer:

"*She* took them."

Once more the ubiquitous she! All at once, I scarce know why, I realized how ludicrous a figure I must be cutting—a portrait of wrath-in-oversize-pajamas. I turned to beat a retreat through the wardroom companionway, and met her face to face.

Overwhelmed with idiotic confusion as I was by the gleam of merriment I fancied I caught in her eye, I recognized her as the original of the miniature in the locket. The face was more mature, it is true, and in her eyes was the clear-seeing quality that sorrow and suffering bring. But it was unmistakably the face that had looked out at me from the locket I had found with the body of the officer of the *Girondelle*.

I suppose I should have been astonished, or experienced some conventional feeling of surprise or emotion, but such was not the case. For perhaps thirty seconds we looked speechlessly at each other, my own mind in a chaotic whirl. Then I saw that she had my clothes in her hands. I snatched them from her and dove blindly through the companionway, keenly aware of growing interest and amusement among the men.

Once alone, however, I dressed with frantic haste, driven by a powerful impulse to see her again and show myself in a more favorable light. Once I paused in wonder at my own agitation and held my hand before my eyes. There was a distinct tremor. Doubtless, said I to myself, the result of the racking experience with the merwolves and the wound I had suffered. Later I was not so sure.

When I returned to the softly glowing saloon of the wrecked space-liner I found that a new arrival had joined; or, as I later learned, rejoined the group—an old man horribly crippled. His legs were oddly gnarled and misshapen, as if they had been broken in several places and had knit without having been properly set. He carried his head awry, as if he had suffered a severe spinal injury. His left arm hung stiffly at his side.

But his face—with its broad, high forehead, hawklike nose, outthrust jaw and indomitable eyes—was the face of a fighter. He was bearded like a patriarch, and a mass of white hair fell well below his shoulders. One met his piercing gaze with the thought that the warrior prophets of the old testament, but for the broken body, might have looked like this.

The old man and the girl stood side by side, with Boaz and Halliday close by, while such of the other men, as were able to rise to their feet, had drawn together in groups. Again, all faces turned toward me as I entered; clearly they had been waiting for my return.

I went to them at once and, an instant sufficed to give me the information that my lieutenants had already made our own story clear. The girl was Diane Brunei, daughter of Captain Brunei of the *Girondelle*, and the old gentleman, the only other survivor, was Doctor René Lenoir.

The name struck me as having a familiar ring. A moment's reflection recaptured for me its association with the discovery of the cold-light process by Lenoir, sometime fellow of the French Academy of Sciences. The pioneer use of cold-lighting within the *Girondelle* had been the occasion of the doctor's complimentary voyage on her maiden trip. The affair had created a seven days' stir, three years ago, widely publicized by T F I naturally, good for a front page column and world-wide broadcast. It was *the* Lenoir, then, who stood before me. Quite a chap in the scientific world of not-so-long-ago!

I studied the contrast between the broken body and the indomitable eyes of the man, and found in it the explanation of why he continued in his prison. Injuries sustained when the ship struck had made him the physical wreck that he was.

I sensed that the girl followed my thoughts. I glanced at her quickly, wondering, as I gazed, that she had escaped unscathed from the ordeal. Instantly came the reply:

"Others took the force of the shock, shielding me with their bodies."

The old scientist frowned and made a deprecatory gesture as though annoyed by an unwelcome interruption. Then, with a force and clarity that established at once his driving power of mind, he began to project into our collective consciousness with incredible speed, his thought narrative. He thought graphically, in pictures, and in pictures his narrative came to us.

We must have made a singular tableau as we stood silently in the eerie brightness of the glittering room of steel. Unshaven, bandaged hearties, leaning on crude, medieval weapons, like a crew of ancient buccaneers. In the midst of our rapt circle, a fragile girl in dungarees, supporting a twisted old patriarch with glittering eyes, whose thoughts were our thoughts, memories our memories, whose visions bade fair to be our visions. Yet thus it was, like men spellbound, we were made to know, as if we had lived through it, the wreck of the *Girondelle*.

* * * * * * * * * *

● He made us see the great space-ship as she soared from her berth and rose high above Paris, followed by her sister ship *Joli Coeur*. Both ships accelerated slowly until the city and all landmarks of earth melted together in a burning, coppery glare, while the horizon seemed to rise till the ships hung in a monstrous brazen bowl.

With Lenoir we became aware of progressive acceleration by listening to the rising whine in the power tubes, rather than to any sensation of lightness. As the pull of gravity grew less, the mounting rate of velocity equalized the loss.

We saw the two pointed, glittering cylinders hurtling through the absolute zero of space, having torn free from the rising wall of the terrestrial horizon, the Earth was now a glittering, jewel-like planet, silver and green, infinitely behind them. We were aware of twelve days' passing, of life and laughter within the space-projectiles —within the *Girondelle* the abrupt imminence of death. Weeks pass by.

He made us see the chartroom of the *Girondelle*, the captain, Diane, two officers listen with white set faces while the radio man explains one day, the destruction of his aerial by a small meteorite. All realize what this means. The ship is now silent, cut off from all communciation with Callisto and with the *Joli Coeur* which at the last reading has been trailing five thousand miles (not too great a margin of safety for etherships cruising at fifteen hundred a minute).

Far ahead lies Callisto, softly luminous in her diaphanous veiling of cloud; astern lies Earth, a pinpoint, diamond bright against the velvety background of space. A light vibration trembles through the ship, then a duller impact somewhere forward. Meteorite! The radio man shakes his head at the captain's snapped interrogation. The mass detector is useless.

An orange light flashes briefly on the instrument panel, lighting the tense faces in the darkened forward control-room. The captain adjusts his earphones. His face is wooden as he listens to the excited report from the oxygen room. The ship is losing oxygen. Somewhere the outer envelope is broken through, somewhere in the inner there is a flaw.

The high voice is clearly audible to the other officers and to Diane. The radio man raps out an exclamation; Diane's features are as impassive as her father's, but her breath comes quickly and her hand is at her throat. The second officer, a youngster, steps quickly to her side. The first officer hurriedly leaves the control room drawing the radio man with him. The captain looks over his shoulder and nods as he sees the first officer has gone. He presses the control-room buzzer. A voice answers thinly.

"Full gun," snaps the captain; "everything she'll take."

A shrieking crescendo of power surges through the tubes and the indicator needle creeps smoothly to three thousand and hangs there. The captain fervently thanks God there are no passengers. He suppresses sternly a quiver of foreboding for Diane.

Lenoir who has heard what's amiss from the first officer, has offered his help and has been refused, he enters the chartroom. He takes Diane's arm and draws her to the compass locker where standing together they stare down at the rapidly enlarging planet Callisto . . .

From this point forward the picture-narrative of Lenoir became largely a recapitulation of our own experience, except for the single fact that before they plunged into the vast radio-inert void the radio-man had succeeded in patching up his apparatus and sending out

an S O S to the *Joli Coeur*. No answer came and they had concluded, after sighting the sister ship just before going into their last plunging spin, that the *Joli Coeur* had met a like fate.

It was this belief that had sent Captain Brunei out to reconnoiter, when, after the striking of the *Girondelle*, he and Diane had seen Lenoir was on the road to recovery, and had finished the heart-breaking business of burying the dead.

With his magical mastery of thought projection, Lenoir conjured before us the frenzied whirling of the down-drawn space ship; the demoralized, hither-and thither scurrying of the crew in their rush from their stations to the comparative openness of the wardroom; the sickening lurch as the gyroscopes whirled from their pivots and the rotating compartments swung erratically, crushing a score of the crew in their corridors. We saw four terror-stricken men who fought their way to the control room, and the final sickening impact when crushed bodies and terror-drugged consciousness were plucked into a vortex of merciful oblivion.

He brought to us a sense of the gradual awakening and discovery of the aquasphere as the source of respiration and nutrition; told us of his dawning impressions in the weird soundless world whose only language was the language of thought.

Only Diane, the captain and himself had survived the destruction of the ship, and that only by the accident of having been cushioned as the ship struck, by the bodies of the poor devils who had found their way into the control room. Diane had suffered a fractured arm and he, Lenoir, had emerged after a critical fight for life with the broken body we had seen. Brunei alone escaped major injury.

With a few flashing images the old savant made us understand the longing and hopelessness of life in their undersea prison which led ultimately to an effort on the captain's part to find the wreck of the *Joli Coeur*, under the mistaken persuasion that she had followed the *Girondelle*.

He had left the ship and vanished in the Da'Elin nearly three years ago. Both Diane and Lenoir had long ago given him up for lost, after experiencing a vivid mental image in which he appeared to them struggling in a maze of wiry tentacles. . . .

* * * * * * * * * *

That was their story. It only remained for me to substantiate their belief regarding the death of Captain Brunei by an account of how we had found the Captain's remains on the edge of the Anemone Forest.

Lenoir nodded sadly and Diane slipped away with a stricken face. I followed her while the men crowded about the old doctor with their questions. At the end door of the passage forward that led to captain's quarters, she turned and looked up at me questioningly, and I saw then for the first time that there was deep trouble in her eyes.

I drew the locket from my coat and held it out to her.

"I'm sorry, but it will be best for you to *know* it was he," was my thought.

She took it from me, opened it and glanced at the miniature. Then she slipped it in her dress. Her look of gratitude was reward enough.

Had I been clever, I should have been less concerned with my own feelings and should have known by her hesitancy that there was something she wanted to say. But my heart cried out at the loss of the locket I had hoped she would return to me.

Both my thought and my expression must have told her that with unmistakable clearness. I saw her eyes drop in confusion and a flush suffuse her face. Then she looked up, white and startled. An instant later she had vanished and I was left staring foolishly at the rivets of the gently closing door. Suddenly the thought came that she might have been looking not at but *beyond* me. I whirled, and found myself face to face with Doctor Lenoir.

And where, before, I had judged him to be a philosophic victim of a fearful misfortune, the shuddering repression of his attitude, and the chill glitter of his strange eyes, now brought to me the warning of a power uncanny and malign.

CHAPTER VI

Conflict!

● For a long moment we looked at each other. I marveled that he made no effort to conceal the bitter malice of his feeling for a fellow mortal, marooned as he was in such utter isolation. Yet with the feeling came another, a growing suspicion that he loved his isolation and that he loved Diane; that he bitterly resented the presence of any human being beside himself.

It was the everlasting turning and clinging of age to beauty and youth. I felt certain that Diane felt nothing more than pity for the broken man, but I did not doubt that in his thoughts lay the hope that time and propinquity might bring a change, and he was wise and patient with the patience of his years. In a way I admired Lenoir with the grudging admiration one accords the strong and the ruthless, for that he was both strong and ruthless there was not a shadow of doubt.

Old and physically broken as he was, there was nothing left for him in the world of men except pity, an intolerable humiliation to a man of his intellectual pride. I understood his passion for utter self-effacement, his deep longing in the loneliness that high mental gifts invariably bring for the understanding, the sympathy, the utter intimacy of matehood.

It was no senile animalism that made him desire Diane, it was the reaching-out for companionship in the torturing loneliness of his solitary nature. Her youth had come to be his very life's blood, and to keep her he was prepared to fight with every weapon at his command.

All this came to me, I say, in a flash of revelation when our glances met and we took each other's measure. And I knew, though I cannot say how, that it was to be his life or mine for Diane. Upon the issue of that conflict, our party's escape from the Sea-of-No-Returning was to depend.

I repeat, there was no clear-cut thought communication between us, there was simply the exchange of a glance. Then, abruptly, Lenoir turned on his heel and hobbled back through the saloon where my officers and men had gathered in knots to discuss the situation. I followed him this far before I stopped, and watched the misshapen gnomelike figure with its twisted spine and long hair and beard vanish from sight in the wardroom corridor. And as I watched I thought of him and of Diane, and the association brought a sense of nausea. It was grotesque. I shook my head: it could not be.

As the aquasphere blotted the strange little form from my view, I sensed that Halliday had joined me and that his mind like my own was speculative.

"When did Lenoir follow us?" was my unspoken query.

"Followed you and the girl with his eyes. Eased out as soon as possible afterwards. Evidently uneasy."

"What did you find out from him after I left?"

"Not a thing, though he ought to know a lot after three years down here. Odd bird. And dangerous."

With that I agreed entirely. It set me thinking—Lenoir's reticence about the Da'Elin, his unwillingness to part with knowledge which he must possess, and which was so vital to us if we ever hoped to set foot on land again. Not to mince words, I felt that the old savant was fully capable of deliberately murdering every man of our crew.

He did not want word of his existence to reach the world, and he would not tolerate the presence of men younger than himself in his strange Eden. This, however, was merely my personal reaction to the man. I acknowledged to myself that I had no tangible evidence to go on. At the same time I have never been one to disregard strong hunches or first impressions. I have found that the first impression, more often than not, is bitterly vindicated by the last.

Remembering the appeal of Diane's eyes, and her hasty withdrawal when she had seen Lenoir behind me in the passage, I decided that the first thing to do was to see and talk with her alone, if possible. The outcome of such a talk should either justify a definite course of action or dispel entirely my suspicions of the cryptic and sinister Lenoir.

I had followed the doctor's preoccupied exit with no little concern. But in this instance, to give him his due, I misjudged. In a short time he reappeared in the after-companionway and beckoned us into the wardroom. As we trooped through the doorway, he indicated that this room was for our use, and pointed out six auxiliary berths of the wall-panel variety and a large hammock locker, before he bade us good-night and left us.

With open elation the men turned out the sleeping gear. It was only a matter of minutes before my exhausted fellow-wanderers lay like logs in three orderly rows of hammocks that swung like gigantic cocoons in the dimmed, spectral light of the long chamber.

For a short time wakefulness prevailed, many of the men stirring restlessly with the pain of their wounds or from the abnormal excitement of the undersea trek. But, by degrees, bodily exhaustion and the heavy warmth of the aquasphere took their toll, and overtaxed bodies and minds relaxed in slumber.

● Perhaps, because of my own hours of rest earlier in the night, I continued wakeful long after sleep had claimed the rest of my command. I reviewed the events of our first day on the abyssal plain, my meeting with Diane and the menace of our strange host of the *Girondelle*. I racked my brains for a plausible way of seeing the girl alone and could not find one.

Lenoir, with the acute telepathic receptivity that he must have developed in the course of three years in the abyss, would certainly be cognizant of any act I might begin. With his active mind and his knowledge of the Da'Elin, the power of controlling any situation that might arise would be heavily in the cripple's favor.

Over and over I reviewed in my mind what I had learned of Lenoir and each time the knowledge seemed less. After all, I told myself, my judgment had been intuitive purely. Lying in the still, greenish twilight of the wardroom, I marvelled at the strength of my faith in it. What evidence had I that the girl was troubled, except for a singular glance from her and the startled look in her eyes as she saw Lenoir watching us with his singular stare? And what evidence that Lenoir resented the presence of others of his kind or desired a girl young enough to be his daughter? None!

Coldly reasoned, all my first impressions seemed fantastic. In this lay the paradox. The more fantastic my logic showed my suspicions to be, the more stubbornly I held with my suspicions. I determined that the girl should have the chance of leaving the ship with us in the morning if she so desired; that we should resume the march on the day following, if all hands were in condition to do so.

With a kind of fascination my thoughts returned always to Lenoir. I tried to estimate, assuming that I had judged the man and his motives in the proper light, what he could do to harass our progress. Here, as everywhere, with regard to him, I found myself at an impasse. His own intimate thoughts and feelings he blocked off with so consummate a skill that he left one nothing to go on.

Once or twice, in the course of his narrative, I had experienced the subtle sense of something withheld or something garbled, but on reviewing the picture-story, as he had rendered it, I could not now for my life remember at just what points this feeling had come. And I knew that no amount of coercion would ever be able to bend a naturally inflexible will, made sterner and more single by the stubbornness of old age.

Again, the man radiated an indefinable sense of power which, the hopeless circumstances of the hulk in which he lived, did not appear to justify. It had become fused into his personality. It rested on him naturally, like an old and well-loved garment. It was a quality impossible to define but whose nearest analogue would be the humility that is assumed at times by unspectacular leaders, in politics or finance, who silently control power in overwhelming reserves. Such reserves Lenoir must possess. Of that I felt reasonably sure; but their nature, like that of the man himself, was utterly unknown.

I gave him up for the nonce and again mulled over the problem of communication with Diane. Here the case seemed more and more hopeless. After so long a period of close communion, her mind and Lenoir's were so intimately attuned to each other that the slightest impulse, on the part of one, would find its counterpart in the other. Just how true this was, Lenoir's instant divination of the girl's half-desire to confide something to me had been ample evidence.

Discouraged, I closed my eyes, discounting the baffling simplicity of feminine resource. But Diane had found the way! All at once I experienced an incredible illusion of utter bodilessness. More than this, I seemed to be an omniscient intelligence hovering *in another chamber of the ship*.

In amazement I opened my eyes only to find myself on the familiar wardroom bunk surrounded by rows of still figures seemingly suspended in the cloudy greenish

light. Eyes propped wide, I lay still with all senses alert and my hand gripping my axe. But not for long. As if weighted with lead my eyelids closed in spite of my best efforts, and at the same time a command slipped into consciousness:

"Close your mind to that of Lenoir."

Instantly I knew the message for Diane's. As if it were necessary! My mind closed as instinctively against the old savant's as his did to mine, though I suspected not so effectively. And at the same time I understood what Diane was doing. I had been right in my surmise as to the close affinity between her mind and that of Lenoir. She could not *oppose* his thought without awareness on his part, but she was able, by making her own mind absolutely passive, to transmit to other minds Lenoir's most intimate thoughts, plans and feelings.

Something that concerned us was about to happen, and she was telling me of it, in the only way possible to her, without the knowledge of Lenoir. With this clear realization of the meaning of the lassitude against which I fought, I surrendered instantly, relaxing my muscles and closing my eyes.

Again, came the strange floating sensation of bodilessness; again, I found myself in changed surroundings, in what I recognized as the starboard observation room of the *Girondelle*, the room I had seen Lenoir retire to, two doors down the corridor from the captain's quarters.

It had been altered to a small living chamber of ascetic simplicity—Lenoir's. The steel door, that gave inwards on the corridor, stood closed but not bolted. Against the forward bulkhead was a narrow locker, evidently the old man's bed and bench both, for he was sitting on it now and studying with intense absorption a globular instrument of polished metal that rested upright upon its heavy base on the table before him.

Like a glittering miniature relief-atlas, the tiny globe rotated slowly upon its slightly inclined axis as if by a force contained within itself. A double-deck bookcase of duralumin, such as one finds for books of navigation in any chart-room, stood against the after bulkhead. It was filled with thin quarto sized plates of duralumin, stacked edge to edge, each one marked at the back with an engraved wedge-shaped symbol, and no two of the symbols alike. This completed the interior furnishing of the cubicle, for it was scarcely more.

● Almost the entire curve of the outer wall was taken up by the great circular port of crystostellion. The arrangement of this was the most unusual feature of the room. The thick port had been swung fully inward, and clamped in its rest to the after bulkhead where it occupied all the wall space above the bookcase. In its place, Lenoir had arranged a double-metal screening, cut from solid erostellion and so devised that, by the operation of a worm-control mechanism, openings of various diameters could be adjusted at will. Clearly visible through the ponderous screen were the deeps of the Da'Elin. Like a night fog, inky black with its subtle intermittent flashes of smoky-green brightness and softened radiances, the sea stole waningly down from the middle reaches, high above us. Lenoir expected visitors.

As I glance back over what I have written, it occurs to me that perhaps I have left the impression that I seemed to see all this as one apart. Such was not the case. Rather I seemed to merge with Lenoir's intelligence, an impatient intelligence whose fierce energy drove it to the study of the little image of Callisto while it awaited the arrival of the creature it was summoning to secret conference. Lenoir's mental being was, for the nonce, my mental being, so perfect a transmitter had Diane's mind become!

The little globe, perhaps twice the size of a grapefruit, was a perfect relief atlas of the planet Callisto, its topographical features indicated with the utmost fineness of detail, and all its grand divisions marked in the singular cuneiform writing. This I now understood as a cipher, with a nomenclature corresponding to that of admiralty survey maps, with which I was familiar. I recognized the division of the four landing quadrants and their starred electromagnetic stations.

The heavy base of the little atlas had been set with the utmost nicety to correspond with certain radiating direction lines engraved in the satiny surface of the table and, from time to time, the old savant moved it slightly to coincide with other lines. The rate of revolution was approximately that of a second hand: it seemed fast, to me, until I remembered the smallness of the planet Callisto and its relative speed of rotation.

In the cold light of the chamber, the steely surface of the creeping globe turned with a blue glitter, while mountain ranges, in miniature, passed in toy review, followed by smoother areas tinted to represent forests and fields. Then, flowing around the edge, came a softly luminous area, enlarging, until its roughly circular extent covered half the exposed hemisphere. I recognized it at once—the Da'Elin. Those last chaotic minutes of controlled despair, when my officers and I studied the inadequate chart, had branded its outlines indelibly on my mind.

The leading shore had followed a long shelving lowland tinted yellowish green—swamp and marshy ground I judged. But the trailing edge of the mysterious sea, as it tracked by, fell sheer, without beach or shelf of any kind, from a rock-buttressed precipice of dizzy height that rose inland to a vast crater. And as the scene slipped slowly by, two other things I saw of vital import to us all.

I saw first, two tiny dots glittering like points of jade on the whitish bottom of the Da'Elin, the nearer, not a quarter of an inch from the forbidding shore-line, *and I recognized the further one as my own ship and the nearer one as the Girondelle.* And second, I saw the conventional glassy representation of water in the great crater beyond the cliffs, and the white of snow along the upper and inner reaches of the crater, *and I knew that there was a passage from the warm sea-floor to that crater lake. The crater water or aquasphere must be cold enough to permit a return to or through its surface.*

The incredible import of my understanding of our true position all but destroyed the rapport of my mind with Lenoir's. We were not, then, as I had believed in the middle of the Sea-of-No-Returning; on the contrary we were within a few hours' trek of its coast. Nor was the boiling heat of its surface necessarily to be an obstacle to our escape since it rose sufficiently high in the extinct crater to be cooled by its altitude and, no doubt, by its strange snows.

I wondered at the nature of the contradiction in physics that justified, in this isolated instance, the apparent rise of the aquasphere above its level. I wondered, as one will think irrelevant thoughts at the wrong time, but was quickly recalled to my original passive rapport

as I sensed the uneasiness of Lenoir. I think that the threat of its rapid extinction was the only thing that could have suppressed the surge of my incredible hope and elation. I shall never understand how I managed, at that, yet manage I did. Or, was it so mysterious? For I was suddenly aware, also, of an outside psychic influence, a force that distracted the old savant's attention from internal discordancy, and centered them upon some strange intelligence of the abyss which, hearing his call, had answered. A queer opalesque brightness illumined the vanishing edge of the sea.

CHAPTER VII
Lenoir's Plot

● Patiently Lenoir waited, staring with intense concentration at the moving globe, until the Sea-of-No-Returning slipped again into view. I saw that a faint brownish shadow, long and tenuous like a hair, moved sluggishly behind it until it stopped and gathered round the tiny dot that marked our position on the edge of the Da'Elin.

Now a little smile of triumph animated the savant's strong, grave features. With my insight into his mind, I knew that by some magnetic force, controlled through the little globe on the table before him, he had set in motion the deep currents of the aquasphere, and that these were slowly bringing a great field of plankton to converge upon the ship. In its wake the greater fishes would follow, and after them would come the predatory creatures of the abyss.

And now I understood: he meant to hedge us in with a vast multitude of black sea-worms, and other monsters beyond the imagination of man to conceive. In his head was the maniacal will that not one of us should escape from the depths of the Da'Elin.

For a little space he sat in silence, his thoughts dwelling on images beyond my experience and so beyond my comprehension. Then he carefully lifted the globe from its table, put it back in its case. Then, crossing to a wall cabinet, he put it on its shelf and closed and locked the cabinet door. After this, he resumed his place at the table, and there began the prelude to an extraordinary pantomime, an occurrence sinister and bizarre, and one that will ever linger most vividly in my memory.

There was nothing spectacular about this exorcism, for such in its kind it was. The still, inhuman concentration of the old scientist, as he sat with elbows on the metal table and chin cupped in his hands, his burning eyes staring into the deeps beyond the grating, had nothing of the theatrical aura that the idea of Faust and Mephisto suggests. But there was something soul-chilling about his absorption, a quality of pure evil. I knew that he was calling, calling—something. And the creature of his bidding, when it materialized, was like the dark figment of a strangely whimsical dream.

A fluttering patch of blackness hovered beyond the grating, dimming from view for an instant the eerie play of lights in the background. Deliberately, Lenoir stepped to the grid control and turned it until the sliding surface opened sufficiently to admit the visitor from the abyss.

The queer little sub-man, that wriggled through the port in the grating and dropped lightly to the floor, could not have been more than two feet high. There was nothing especially forbidding about him at first gaze. He was well-proportioned, in his toylike way, except for his delicately webbed feet and their prehensile toes. His color was inky black. At the first glance he seemed to be clothed in a short black cape that hung evenly from each shoulder in intricate and regular folds. Closer observation revealed that these were in reality membranes attached to long arms which lent themselves on occasion to winged flight. In fact he had half extended them in springing down to the floor. Seen fleetingly, his face showed strongly defined but slightly flattened features, the most remarkable of them being his eyes which were long and slitted, and burned with a cold, catlike glimmer.

The moment the gnome-like visitor entered, Lenoir closed the aperture in the grating and resumed his position before the table. The sub-man promptly sprang to the table-top and seated himself with his legs swinging in swift incessant motion over the edge, his off arm resting lightly on his hip, and the other arm stiffened to support his upper trunk. In this position, his long delicate fingers were fully extended on the flat table surface, and I noticed a feature of them I had not noticed before—long, curved, retractible claws; now showing half unsheathed by reason of the extension of the hand. Each one was needle-sharp and just over the point of each was a tiny channel, a poison-channel my key to Lenoir's knowledge resources told me.

I knew, without any clear understanding how, that the fragile, dandyish, nervous creature lounging on the table edge represented the deadliest species of the Da'Elin. The lightest scratch of its carefully sheathed talons meant instant paralysis. Its cat eyes, night coloration, and capacity for flight, made it the master of every living creature of the abyss.

The motions of the gnome of the abyss were agile, controlled, incredibly rapid. It twitched and moved and changed position incessantly like a monkey. I knew that here was a creature without reason, an imitative creature —dare I call it mermonkey?—trained by Lenoir and responsive to his will.

The cripple sat without stirring, regarding the imp with an unblinking stare until it grew quiet. Then, very slowly he raised his right hand and held it up to the light until a great opal ring on the middle finger glowed like living fire.

● The imp fixed its eyes upon the stone in a kind of helpless fascination, its wings shuddering slightly like those of a bat. For perhaps five minutes the old man held his creature at gaze until he had it under total hypnosis. Then I felt that he was willing it to act; willing it to close the steel door between the forward passage and the saloon, where we had assembled so short a time before; willing it to open the saloon sally-port and let in the sea; *willing it to open wide the door that led to the wardroom where my men and I were sleeping!*

Instantly, the imp spread its wings and circled the tiny room, its eyes glowing like a cat's from the reflected light of the luminous walls. Then it hovered at the door while the old doctor opened and closed the lock several times, and made the imp do likewise. This confirmed me in my surmise that Lenoir's creature had no more intelligent initiative than an average monkey.

Then the doctor slipped into the passage and, following the little nightmare, watched as it opened the door of the passageway and drifted like a ghost to the sea-door. The creature had learned its lesson with the thoroughness

of a being fully hypnotized.

In the world we know, hypnotic behaviour-control applied to mammals lower than man would be unheard of. But, here, in the strange thought-sensitive aquasphere, Lenoir had been able to project into an irrational creature a half-human faculty, for the limited time it would take to accomplish his purpose. And it was only then that I realized for the first time—understandingly, not with coherent thought—what that purpose was.

This was only the rehearsal. On some pretext Lenoir planned to keep us in the *Girondelle* until the deep-sea monsters should arrive in the wake of their food-supply. When that arrival was to be I had no means of knowing. (Hardly later than the morrow, I fancied, though subsequent events were to show that I was wrong.) Then, when the sea-worms should swarm outside and the merwolves close about us, holding us prisoners in the ship, he would summon his little black imp, hypnotize him again, and send him to close off the forward part of the *Girondelle* in which he and Diane had their quarters. Then he would open the wardroom aft, where we'd be sleeping, to the silent onslaught of the black sea-worms and the merwolves.

I understood, from my insight into his mind, that he dared not open the doors himself, first, lest the concentration of his own mind rouse us to our danger, and second, because of the acute physical danger in which he would place himself. Instead, he meant to use this trained gnome of darkness, itself of the Da'elin.

Twelve times, like a ringmaster, Lenoir put the imp through his drill, until he could bolt the door to the forward passage, open the sea-door and open the wardroom door—the lock was on the saloon side—in the twinkling of an eye. After that, he could flit into the Da'elin and return to his master, if Lenoir willed it, through the grating in the old man's room that stood ever open to the humid currents of the depths.

When the discipline was over and all secure again, the imp followed Lenoir to his tiny study.

I had tried, repeatedly, to open my eyes when I knew that the wardroom door was soundlessly swinging ajar. With a feeling of helplessness I now understood that I could not, that I, too, was in a state of partial hypnosis. And then, abruptly, I awoke, all connection with the doctor's mental processes fading out until my mental being was whole again. And I knew that the mental strain of transmitting passively, of stifling all thought initiative, of closing off Lenoir's faculties of receptiveness, had been too much for the girl. Diane had lost consciousness.

There was not a moment to lose. Willing my mind to be chaotic, but with a fixed determination to forestall Lenoir, I sprang to the deck. I had fancied a nebulous something about a compass. In my last dimming vision of the batlike creature, I had fancied it bore something in its claws as it followed the doctor out of the great saloon. I ran over to the table where Boaz had set it. The compass was gone!

Without pausing to recruit help I darted into the saloon, crossed it and followed the forward passage until I stood outside the doctor's door. Something warned me, insistently warned me to go back. But in my agitation, my anger at being thwarted, my desperate desire to get at my compass and the doctor's little globe with its plot of our position, I gave the warning no heed. Any moment now, for all I knew, the vanguard of the monsters of this hellish abyss might be round us.

I wrenched at the lock but it would not give. I beat at the metal door until my hands bled. I even tried to cry out. Then I beat upon the smooth surface with my hand axe.

There was an answer.

This time the door opened suddenly. But it was not the doctor who greeted me. A black shape darted through.

Quick as thought my axe whirled up to meet it. By great good luck, and the providence that sees fit to guard some of us, I sheared the little monster through. At the same instant I felt a sharp sting on my cheek, followed by an icy numbness that flowed downward through my body and paralyzed my limbs.

Stupidly, I saw my axe drop from the right hand, that no longer had the strength to grasp it, and hang dangling by its lanyard from my wrist. And then I saw the doctor come forward into the doorway. He stood gazing with rage and vexation from the inky corpse on the deck to me, its slayer.

I felt his mind probing into mine, and understood that I no longer had the power of keeping from him my knowledge and the manner of its gleaning. And I knew that the poison that rendered me helpless had come from a faint scratch of one of his creature's channelled claws. The thought in my mind, as I sank helplessly to my knees and pitched forward to the deck, was that I had certainly come this time to the end of my road.

● Then, though it may have been a kind of delirium rising in me, I fancied that the doctor, divining what was in my mind, was answering in thought:

"You will live until you have seen my plan, betrayed by Diane who loves you, carried out. You have killed one instrument. Very well, I have one other."

And after that, it seemed to me that men gathered round me and took me in their arms. But I felt like a man who is dead and my mind and thoughts were locked fast in my breast as if they had been frozen. Then I seemed to lose all sense of place or count of time until I regained consciousness many hours later.

Regained consciousness, I say, but the consciousness I woke to was of a very strange character. I lay in my bunk, as rigid as any cataleptic. I was unable to project my thoughts to Boaz, Halliday and Diane who were bending over me with deep concern. Yet all the while I was perfectly able to receive and understand all that was felt, all that went on about me. My conscious self was caged—perhaps that's the best way to express it—caged in glass, able to comprehend everything that went on, but unable to tell what I knew.

When the realization of my position fully dawned on me, I suffered all the agonies of hell. About me were the men of my command, loyally waiting for me to lead them, while the forces of the Da'elin were moving to destroy them at the bidding of a superannuated maniac.

I now began to understand the import of the doctor's words that had seemed half in dream to come to me the night before. The virus from the creature's claws was of a kind that paralyzes but does not kill and I felt that, given a day or two, it would wear off.

What irony! By dark, the abyss would be alive with nightmare horrors incarnate. Perhaps this very night the doors would be thrown wide to them. And I, lying

awake, would see the black serpents tear out the throats of my companions one by one, without being able to stir a finger.

Then, as clearly as if he were at that moment standing before me, I seemed to see Lenoir as I had seen him the night before, staring from me to the black imp I had killed. Then his thought:

". . . You have destroyed one instrument. Very well: I have one other."

He had spoken of Diane's love for me—that thought came also—I would not let myself believe, I dared not think that she was the other instrument he had in mind.

As the day advanced I fancied that the aquasphere beyond the ports of the *Girondelle* and within the wardroom, took on a brownish tinge. And, by the time the light began to fade, it had become unmistakably brown. Diane, who had hovered tearfully over me the greater part of the day, had been gone from the wardroom for some little time. The men stood in groups at the murky ports, studying, with anxiety and concern, the darkening aquasphere and the darting, writhing black or semi-luminous shapes that followed it.

With mute misery I watched a knot of men, who pressed their faces to the port, immediately within my range of vision. All at once I saw them start back with involuntary horror and, between them, I caught a glimpse of the thing that had caused it, the white, scaly belly of a great sea-worm swaying down from above. Abruptly, the thing released its hold and its obscene length slithered across the crystal and disappeared from view.

I have been told that there is a point of human misery beyond which our senses refuse to respond. I must have reached that point then, for I fell into a kind of stupor, vaguely conscious of a confusion of thought and of motion around me. I do not know how long I remained in this state but, when I roused myself from it, I was aware of a general sense of hopelessness, a diminished strength of morale among the men. Most of the hammocks had been slung and many of the men were sleeping or tossing restlessly in them. Boaz, Halliday, Wethered, Barney, Nucci and Dutch were sitting at the wardroom table in attitudes of dejection. Five men stood before the crystal port staring out into the depths. They were now quite dark except for a singular pulsing luminescence, and a chaotic glimmering of pallid blue and greenish lights that played like ghostly fireworks in the world beyond our prison. The abyss was alive with monsters, the more frightful for being vaguely seen.

One by one the group dispersed, overcome with weariness and emotional strain, leaving only the six men at the wardroom table.

It was not long before they rose and, in a body, came to where I lay. For a little space they stared down at me. Halliday shook his head and bent over me, moving his cheek to my lips and laying his hand over my heart, to see if I were still alive. I saw him nod to the others but with no very sanguine face. The thought in his mind was: "He'll not be for long, poor devil. How peaceful he looks." Then they turned away to find their bunks and hammocks to drop off into the peculiar drugged sleep produced by the humid warmth of the aquasphere.

For myself, I had no power to close my eyes. My racing mind, wakeful, after the stupor of the afternoon and whipped to double activity by the knowledge of the death that overhung us all, was more acutely receptive to every impression than I have ever known it.

For perhaps an hour, nothing happened. I could not see the door that led from the saloon to the wardroom, but I knew that it was not locked. Why should we lock it against Lenoir?

Another hour passed uneventfully and now I began to experience an odd feeling of lightness and with it the sense—was it fancy?—that the effect of the paralytic virus was wearing off. I felt a warm tingling about my eyes and, after that, a stabbing pain that lasted in its intensity about ten minutes. As it wore off I found that, with an effort, I could move my eyes. I could see the door, but not another muscle of my body was I able to stir.

Drawn by a morbid fascination, I stared at the immovable portal until the strain forced me to close my eyes. Little by little, struggle as I would to keep awake, eye weariness and the enervating warmth began to stupefy my senses again. I slept, slept until I was galvanized to wakefulness by a sudden violent current that swept through the wardroom; knew, through my breathing, a fresh and unaccustomed quality in the aquasphere. The wardroom was open to the sea! As I opened my eyes upon a confusion of misty *brown*, an agonized appeal flashed into consciousness.

Boaz and Halliday were rushing across the chamber, roused by the silent anguish of Diane. With all her strength she was struggling to close the wardroom door. Caught in the crack of the door and half way through it was an enormous sea-worm writhing its slimy length forward inch by inch. As I looked, I saw it strike sidewise at her legs. Then Boaz, with his axe, hacked it through and, an instant later, the door swung shut under the weight of half a dozen men. The bolt fell true while Boaz crushed the head of the still writhing thing on the floor. He then sank down into the corner and was violently sick.

CHAPTER VIII
At Bay

During the amazed horror of that moment, when I saw the girl fainting against the door, and the monster working its length over the threshold, I must have made a superhuman effort to get to my feet. As I saw Halliday and Wethered take up Diane's limp figure and lay it gently on a bunk, I realized that I had swung my feet to the deck and was sitting up.

I had heard, of course, that paralytics had been cured through emotional crises, but I had never thought to experience such a cure. My will and mind were freed again. That there was another cause for this I was to learn later, but in those critical moments I did not pause to wonder or to examine the cause. An effort to push myself to a standing position satisfied me that I was in no condition yet to move about.

Boaz, who had risen shakily to his feet, was the first to notice the change. He staggered toward me, his eyes starting from his head as if he were seeing a ghost. He was uttering, mentally speaking, a shout of triumph that directed the attention of the rest to their metamorphosed captain.

In an instant I had apprized them of Lenoir's plot against us and of my part in the business. It was clear to us all that the cripple had attempted to use Diane as the instrument of our undoing, and equally clear that she had chosen instead to be the means of our salvation.

Granite-faced, my command heard me through. Then, as by common consent, they went for their weapons and moved in a body toward the saloon.

I darted a command to my officers and they, backed by that grim trio—Barney, Nucci and Dutch—stepped forward and barred the way to the door.

I explained to them then as they stood in angry uncertainty that to move from the comparative safety of the wardroom, until we knew exactly what to expect, would amount to suicide for all hands. We should have to wait until Diane recovered consciousness and could tell us how matters stood with Lenoir. There was no telling how many more tricks the crazed scientist had in his bag.

Sullenly the men turned away from the door and gathered around the wardroom table or at the ports, but there was not one of them who did not keep his weapon slung to his wrist.

Boaz, Halliday and Wethered drew up benches and sat down by my bunk while Barney, Dutch and Nucci stood behind them.

My thoughts ran thus:

"Our first move must be to get our compass and Lenoir's magnetic atlas if he hasn't destroyed them. Once we have our direction we're within four hours' march of dry land—the vertical cliff I told you of. Somewhere along its foot there's a long tunnel that leads inland to a crater lake. Whether the lake is water or aquasphere I don't know, we'll find that out if we get there, but it ought to be cool because there's snow on the rim of the crater.

"When Diane gets around again we'll find out from her what Lenoir is doing; where he is, if she knows, and go get him. We'll have to fight our way across the saloon to get forward and close the sea-door on the way. The atlas is the main thing. With that we can move the food supply away from here. The sea-worms and what not will follow that and leave us a clear passage to the mainland."

For a little while we remained thoughtful, each one of us pondering the problem in his own way. We were in the rear third of the ship. Lenoir was forward. Between us lay the saloon, now infested with sea-worms, and we knew not how many other monsters as dangerous or more so. Worse still, the sea-door stood invitingly open to as many more as might see fit to enter. Lenoir had our compass and without that we were helpless. He also had the little magnetic atlas of the planet Callisto and the means by which he could control the migrations of the monsters of the abyss by directing currents that moved the food supply.

By that means, alone, he could keep us prisoners indefinitely, though all else were in our favor. Whatever the cost, we should have to get at Lenoir. The first move must be to close the sea-door and destroy such creatures as might lie in wait for us in the no-man's-land of the saloon. It was a dangerous commission, the closing of the sea-door. It amounted to sacrifice, but it had to be done. With an inner shrinking I realized that it was my duty to choose the suicide detail.

I should have known my men better. Nucci, who had followed my thought, stepped forward instantly. Barney needed no more than this to clap the Italian a backhanded blow across the face and send him reeling, standing forward in his place with the winning smile that was so ludicrously at variance with his rock-ribbed jaw and the gnarled toughness of his bow-legged, barrel-chested figure.

Nucci, brick-red with fury, returned the challenge with a hearty booting and in an instant they were rolling on the deck, like two pit bulldogs, while the gigantic Dutchman, one great paw in each one's scruff, tugged them apart with an expression of weary disgust. With his enormous arms he held the two of them easily apart, then he drew them to him, one in the crook of his right arm and one in the crook of his left, and leaned his weight upon them to keep them quiet.

"They both go and I go too—for peace," was his message. And that was that.

The thing had happened so quickly that my officers had hardly had time to rise to their feet. For myself, I was not sorry for the incident because it took the men's minds off their troubles for a short time. At any rate, it offered their favorite divertissement, in the form of contention among these three inveterate brawlers and inseparable friends. They had watched the show with grinning faces and brightening eyes, sorry only that it ended so soon.

● Perhaps I ought to explain that the trio was even at that time a tradition on the interplanetary service and there were bets, so I'd been told, of seven years' standing as to whether, in a finish fight, the Irishman or the Italian was the better man. Phlegmatic Dutch was the fly in the ointment. Impervious alike to bribery and pleading, he always put an end to their battles just when, from the standpoint of the gallery, matters began to be interesting.

I say again, the interlude was well-timed. It was good for morale. Yet in a way I regretted it too. Three enthusiastic volunteers for so dangerous a mop-up detail, relieved me of a certain measure of responsibility in ordering men to their deaths. But I did not lose sight of the fact that these three were, by all odds, my most valuable fighting men.

In the excitement of the moment we had all but forgotten the girl in the bunk. What was my surprise to see her sitting up again! Boaz and Halliday followed my thought and went to her at once and, with their support, she crossed the wardroom and sank down on one of the benches by me.

It was no time for ceremony. She knew intuitively the question that was in our minds and gave us an answer:

"Lenoir drugged me. Then he hypnotized me. I remember nothing after that, until a terrible fear woke me from the trance. I saw that this door was open, and that the sea-door was open. I must have opened them. And those . . ." She covered her eyes with her hands, at the thought of the sea-snakes, and for a moment I was afraid she was going to be as sick as Boaz had been. ". . . Those—things were crawling in. He was standing in the passageway. One of them darted at him . . . took him by the throat. That's why I woke, I think. His death released me, that and the frightful shock. I ran in here and tried to shut the door . . ."

"You are sure Lenoir is dead?"

She nodded, covered her face with her hands, swayed sidewise. Boaz caught her and carried her back to the bunk where she lay as still and white as death.

Now, I understood the reason for my own miraculous recovery. The virus of the little monster, evidently, had

a very transient effect in itself. But Lenoir had prolonged and intensified that effect, partly by suggestion, and partly through his powers of mental control, possible only in the eerie world of the abyss. Death had destroyed his influence over my mind, as it had in the case of Diane.

Our problem now stood simplified, somewhat, resolving itself into ways and means for closing out the denizens of the Da'Elin and destroying those already in the saloon. When this should be accomplished, the recovery of our compass, and the manipulation of the atlas, would at least give us the key to winning our way to the mainland. What other dangers lay in our path we had, of course, no possible means of finding out.

Boaz crossed to me and reported that Diane had come round again, and, half an hour later, Halliday returned to the fold with the gratifying news that she had fallen into a deep sleep. After this, he posted a watch at the door and another at the port to keep a lookout seaward. Then all hands turned in again, leaving me wide-eyed with my thoughts in chaos. Little by little nature asserted itself, however, and I began to drowse. The last image in my mind as it darkened into slumber was that of Diane.

● It was a strange sight that greeted my eyes when I awoke, a sight that put me in mind of the tweedledum and tweedledee episode from *Alice in Wonderland*.

By the table stood three gigantic figures, Barney, Nucci and Dutch. Two sailors leaned over the table, tearing their heavy hammocks into ribbons and handing these strips to Halliday, Boaz and Wethered who, as fast as they received them, wound and knotted them about the limbs and bodies of the gladiators until they had taken on the general appearance of fat rag dolls, very much larger than life. Clearly my sacrifice detail had no intention of dying. As I sat up and watched the proceedings with exultant commendation, I said to myself that tearing through eight layers of thick canvas would take quite some doing, even for a sea-snake or merwolf.

I got up and lent a hand, with some difficulty, however, for I was still weak. Then as a finishing touch, they were binding twelve layers around the throat of each man, for the throat, as we knew to our sorrow, was the invariable point of attack.

By the time that all was in readiness, the ports had lightened and the morning was upon us. Diane still slept and we did not wake her. Four men moved to the door, that opened into the saloon, ready at a word to draw the bolts and swing it ajar for the mop-up detail to go through.

And it was then that my heart and my judgment misgave me. I was not strong, my encounter with the little black mermonkey of Lenoir's, and my subsequent experience, had left my resistance low. But I could not send those men out upon so vital a mission without a responsible person in charge.

Acting on the impulse of the moment I commanded Boaz and Halliday to wrap my body as they had wrapped the others. Protest was instant and vehement. I willed a categorical command that, in the interests of general discipline, they could not disobey. Barney, Nucci and Dutch only grinned and settled themselves to wait until I should be ready.

My armorers, if I may call them that, profiting by their experience with the other three, worked swiftly. It was only a matter of minutes before the thing was done. I gave the word and the four men at the door drew back the massive bolts while our overstuffed foursome took up our axes and knotted the lanyards over our wrists.

I went first and I do not hesitate to confess that to step through that door into the saloon was the hardest thing I ever did in my life. I thanked providence for the weight and bulk of the padding. It concealed the continuous tremor of fear and terror that shook my body like an ague as the door swung open barely enough for me to squeeze through.

● Somehow I forced my unwilling body through. Keeping my back to the wall, I edged along it toward where I knew the sea-door to be. I say I edged along toward where I knew it to be, because I could not see three feet in front of my face. The plankton laden aquasphere obscured the great room like a thick brown fog. Yet once committed to the venture, my trembling ceased. I take no credit for courage, for heaven will bear me witness that there was not an instant that my legs were not aching to bolt with me to the wardroom and the comfort of my fellow beings—to the wardroom where at least we could *see*.

I can only liken my feeling to the desperate calm I imagine must come to a doomed man, as he stands on the scaffold with the rope round his neck, waiting for the trap to be sprung. I had not the faintest idea that I should ever return from that venture alive.

I sensed, rather than saw, that the others had come through the door.

"Backs to the wall. Close up and keep together," was the prayer in my mind. Obedient to it, I felt the touch of Barney's elbow against my side and drew courage from it. Cautiously we edged to the left, as I reached out and tapped along the angle of the deck to test every foot of the way. I swear to you that the thirty feet from the door in the middle of that bulkhead to the curved sheer of the ship's hull, was the longest journey I have ever made.

We had reached the corner without mishap and had begun with somewhat more confidence to edge our way along the outer sheer, midway along which we knew the sea-door to be, when my reconnoitreing axe encountered something that gave slightly beneath its edge.

Involuntarily I started back against my companions and brought the procession to a halt. Cautiously I tapped again. Again I felt something tough and rubbery give slightly, but there was no movement, no resistance. Crouching I moved forward again, holding my axe high to shield my face, until I felt that I stood over the thing. Then I bent down to see what it was. Lower I stooped, and then I saw.

It was the body of an enormous sea-worm, horribly mangled and freshly killed, for the creature still quivered convulsively. As I looked, my eyes riveted to the serpent with fascinated loathing, a gigantic black claw, fully four feet long and powerful in proportion, reached out of the murk, seized it and dragged it out of sight. At the same time the most sickening stench polluted the aquasphere—the sort of thing that makes a man retch.

There was nothing for it now, we must go forward or go back. I understood why we had not been attacked

by the sea-worms. There was something more deadly still in that saloon, something that could prey with impunity upon monsters as frightful as the serpents themselves.

We hurled ourselves forward with the recklessness that is born of desperate fear. In momentary expectation of having the thing reach out of the murk for one of us, we found the sea-door and hurled it shut. Dutch spun the keeper screw full down and locked it with frenzied strength.

We plunged forward, forward toward the passageway that led to Lenoir's quarters and the instruments that meant our salvation. My foot caught in something that clung and brought me up sharply. I groped downward blindly and my hand came in contact with a human face. It was Lenoir or what remained of him. The sea-worms, and whatever other abyssal horrors had entered as a result of his plan to destroy us, had done an act of poetic justice and done it well.

Abruptly we crashed into the forward bulkhead. It was good to feel a solid surface against our backs again.

This time, I was last man. We gained the angle of the doorway and edged round it after Dutch. I was within three feet of it when I felt something soft, something thinly elastic, underfoot. I stopped. Like a flash the thing was withdrawn from beneath my feet, as if someone had pulled a rug from under me, and I went sprawling to the deck. And then a rasping surface closed round my head with frightful strength and began to squeeze. I struck frantically at it with my axe but the weapon rebounded harmlessly from its tough rubbery skin.

Blackness began to envelop me. I prayed God that the end was to be a swift one—and then I found myself suddenly released and tossed aside. In pain I scrambled for the forward passageway, with the blind purpose of an injured squirrel hunting a hideaway. Somebody drew me into the passageway and hurriedly closed the door. Then, stumbling forward, over the bodies of two more of the great worms, I learned later that Barney and Dutch had killed them in a brisk set-to.

I found the room I had visited, in such strange fashion, so short a time before. The four of us, thoroughly winded, threw ourselves flat on the deck, gasping from the exertion and the cloying warmth and heaviness of the aquasphere.

As I lay there, I brought my mind to bear upon communicating to our waiting comrades all that had happened to us, and the good news that we had won through. At once came the telepathic reply: they had got my message and were rejoicing.

When we had rested somewhat, I rose to my feet and went to the cabinet where I had seen Lenoir lock the little globe. I had no key, but the edge of my axe forced the door in very short order. There, on its shelf with my compass beside it, was the case that contained the atlas.

With infinite care I carried it to the table and opened it. The four of us bent over and looked inside. The atlas was intact, though now the inner radiance of the globe seemed much fainter.

● I took it out of the case and set it on the table exactly in the position that I remembered Lenoir had set it in reference to the complicated network of direction lines. To my delight its luminosity waxed greater and slowly it began to revolve. Barney and Nucci covertly crossed themselves. Dutch knit his brows in bewilderment and in very truth my own mystification and awe was no less than their own.

A point of light brightened. Slowly it moved toward the middle of the Da-Elin and the hairlike trail of amber radiance followed like the tail of a tiny comet. I replaced the atlas in its case. The doctor's *chef d'oeuvre* had seemed to function for me as it had for its inventor. Whether it actually did or not remained to be seen. There was nothing for it but to wait until the rich brown aquasphere should be borne away from the *Girondelle*, carrying the creatures it nurtured in its wake. Until that happened we could not hope to stir.

I anticipated a wait of at least two days and informed the afterguard to that effect, with a warning of the thing or things now locked in the saloon. This done, we helped one another out of our padding and, closing the door and searching every corner of the plankton-fogged cubicle, we composed ourselves for rest, as well as we were able, in the cramped space of the tiny compartment.

Six hours passed, in stoic uncommunicative discomfort, without any perceptible change in the color and density of the aquasphere. Nucci and Barney changed position restlessly; patently their nerves were on edge. Even the phlegmatic Dutch rose and went to the barred port and looked moodily out.

Two hours more brought the peculiar darkling light quality to the depths that spelt the beginning of darkness and an inquiry from aft if all were well with us. Our answer was "All secure."

When the darkness closed down I fancied that the color of the aquasphere had begun to lose its brownish tinge ever so slightly, though I could not be certain. I told myself that it might be the glare of the cold-lighted walls through the thick haze, intensified by contrast with the darkness of the outer abyss. I scarce dared to hope.

But the impression brought in its wake speculation as to what the secret of the little atlas might be. I wondered whether this might not have been the real reason why Lenoir had come to the planet Callisto. To give him his due, he had been a supremely brilliant physicist. Of the properties of the globe, for purposes of controlling the currents of the Da'Elin, he could not have known until the accident of the wreck that made such knowledge accessible to him. I wondered whether the pure scientific joy of perfecting this uncanny instrument had not been the main incentive for his contented existence as a prisoner in this world of the abyss. Undoubtedly the man had been mentally deranged—or had he?

These are questions that bid fair never to be answered. But none the less they offer now, as they did then, an interesting field for speculation. At the time they served a useful purpose in keeping my mind occupied during the trying hours of our enforced waiting.

Feeling restless, I made my way over to the metal bookshelf and took out a few of the engraved plates which filled it, standing edge to edge. I examined them curiously, but could not make heads nor tails of them as they were written in cipher. I did not doubt that, somewhere, in this collection of notes or narratives, which the doctor held sufficiently important to preserve graven in metal, lay the secret of his astonishing invention.

For a little space I toyed with the idea of carrying them with us if we should leave the ship, in order that I

might lay them before scholars skilled in deciphering such things. But their bulkiness and unwieldy character decided me against it. But that I should carry off the instrument and the table top with its finely engraved direction lines, I was fully resolved.

CHAPTER IX
The Battle of Titans

● By morning we were encouraged to see that the haziness of the aquasphere had noticeably lessened. So much lighter was it that the four walls of our compartment were dimly visible. As the light began to brighten, the afterguard again hailed us and, as before, our reply was "All secure."

But not until the third hour of the day did the abyss really begin to look normal again. Even then, a glance sufficed to show that beyond the caged port our grisly convoy still darted and writhed about us. Yet nothing, thus far, had disturbed the peace of our watchful waiting. For all my experience of the malign reserves of the Da'Elin, I began to be lulled into a sense of false security. To enter the saloon, we knew, was out of the question until the aquasphere should be clear enough to show us what awaited there. But, so long as we stayed where we were, we felt ourselves fairly safe.

Noon passed and the afternoon waned. As the light began again to dim I began to experience a vague uneasiness. I sensed that something was amiss in the after part of the ship. There was unrest, anxiety there.

Unable to place what it was by any definite communication, I paced the length of our tiny prison until I could bear the uncertainty no longer. I went to the little hermetic door that gave on the forward passage and opened it slightly . . . A warm foetid current enveloped me and sent me retching to my knees. Somehow I closed the door and sealed it again. Barney, Nucci and Dutch were on their feet, their faces masks of disgust and alarm. The sickening stench that now filled the cubicle was the same we had experienced as we crossed the saloon, a protective exhalation, doubtless, that surrounded the monster with the gigantic black claw.

All too clearly now I understood the predicament of the afterguard. We, with the caged port open to the sea and closed off from the passage by a hermetic door, had isolated ourselves in what amounted to an open compartment where the aquasphere was pure.

But the rest of the ship was readily permeable to the poisonous exhalation. Its bulkhead plates were slightly sprung. I had had conclusive proof of this, by the increasing fogginess of the aquasphere I had observed, during the dragging hours of the night I had lain helpless in the wardroom. Worse still, the wardroom ports were fused into the plates and insulated against the vacuum of outer space. Where we were closed out, the rest of the party were closed in and were being suffocated by slow degrees by the sickening reek of the monster in the saloon.

I experienced a horrible minute of uncertainty as to whether the closing of the sea-door had or had not been a mistake. No matter, the decision had been made and the thing was done. The immediate question was how to clear the fumes from the ship before the men and Diane succumbed to them. I realized that the deeply opaque aquasphere in the saloon, with no opening to carry off through, would stagnate indefinitely. Until the room was cleared, we should be at a hopeless disadvantage, in any sally we might make against the abyssal ogres that held it.

And I confess that this time I felt myself helpless. I lost my head for an instant in a sort of panic and clenched my hands until I felt the nails bite into the flesh in an effort to think clearly. Then came Dutch's stolidly practical suggestion:

"Why don't they try the oxygen distributing system?"

Why indeed! The thought must have reached Halliday for I felt an impulse of hope from the men in the wardroom strike upon my consciousness with a quivering shock.

They had neglected the obvious, as is so often the case. The oxygen distributor functioned normally to ensure a constant and even circulation of air throughout every portion of the ethership, carbon dioxide and devitalized oxygen being forced out by electric pumps through vents in the hull. There was no reason why the distributor could not be used to draw in fresh aquasphere and circulate it throughout the ship, provided the pumps could be made to work. Herein lay the difficulty. Nothing was more certain than that the electric pumps would not function in a radio-inert medium. Or would they? I had in the terrestrial compass a constant reminder of the bewildering contrariness of the Da'Elin.

The four of us sat very still and concentrated to establish rapport with the men of the afterguard.

We knew when Halliday and Boaz disconnected the oxygen line from the tanks and attached it to the hull vent. That would bring fresh aquasphere coursing through the ship instead of the oxygen which was, for our purposes, useless. We knew his discouragement, when he switched on the dynamos in the hope that they *might* function; his triumph, when with hastily improvised cranks the men succeeded in working the pumps by hand. We knew the sickening conditions they worked under, when men dropped from faintness and other men took their places, and we knew their exultant feeling of triumph when freshening currents stirred in the wardroom to bring the message of success.

The night wore wearily through and we dozed fitfully, resigning ourselves with difficulty to the forced inaction of the besieged. When the hazy brightness of morning showed through the grating, we rose from our cramped positions on floor and locker to find that the last trace of brown water had left us, and there was not a living creature to be seen in the abyss. This time it was our turn to query the afterguard.

"All secure," came the strong response.

Silently the four of us shook hands all around. The aquasphere was clear again. We saw it, we realized it, but still we could scarce believe our eyes. We gathered at the grated port and looked out. Not a living thing in sight, only an empty world of green and gold fading mistily into dark tremulous perspective. Lenoir's magnetic globe had served us well.

● I opened the door that gave on the passage. This time I found the aquasphere bearable, though by no means pleasant. But it was clear enough to justify a little reconnaissance. In the soft radiance of the cold light, only a faint brownish tinge remained. On the deck, two twisted black blotches indicated the position of the dead

sea-worms. The observation glass in the bulkhead door at the end of the passage glittered faintly. I stepped toward it to have a look and see what could be seen in the saloon. Barney, Nucci and Dutch crowded into the passageway behind me. Stepping gingerly over the serpents, we came to the door and I pressed my nose against the glass.

The brown haze in the saloon was slightly denser than in the passage where we stood, but it had cleared sufficiently to permit bare visibility from one end to the other. The first thing that greeted my eyes was the skeleton of Lenoir lying not very far from where I remembered stumbling over it two nights before.

It had not been a skeleton then, but now the metamorphosis was complete. All that remained were clean-picked bones and a few soggy wisps of hair. Even these bones had a crumbled aspect as if they had been in contact with some strong corrosive substance. Every shred of clothing was gone, though, scattered among the bones, I was able to discern a few small round objects which I judged to be metal buttons.

In the far right-hand corner of the room, another glimmer of white suggested fragments of a similar character, and in the extreme left-hand corner was an enormous black blur, the outlines of which I was unable to make out. With due allowance for its distance from me I estimated its height as fully eight feet and its width twice as great again. It might have been a black crab of nightmare proportions. Certainly, it was the creature whose gigantic claw I had seen reach out of the murk.

Understanding the eagerness of the waiting trio at my shoulder, I made my inspection brief and then gave place. One by one they pressed their noses in turn against the little square of crystal, stepping back with obvious reluctance for the next man up. At last Dutch shouldered forward for his turn and stood immobile for so long a time that I tugged at his elbow impatiently.

As I took my place again, he pointed with his finger at something that had escaped the notice of the others. I gazed in bewilderment unable at first to see what he was pointing at. Then I did see.

Spreading across the floor, just outside the threshold where we stood, for a space of nearly twenty feet, was what looked to be a roughly circular stain. It matched the grey deck; what made it visible was more its texture than the quality of its color. Yet as I studied it closely I saw that there was something else: a faint iridescence played over its surface from time to time. Extreme flatness and the haziness of the saloon aquasphere rendered it scarcely noticeable to the casual glance, but it was a living creature none the less. Without doubt it was the same monster I had escaped by so narrow a margin, a short time before.

With an involuntary gesture I passed my hand across my skinned cheek and temple as full comprehension of the nature of the thing was borne upon me. This must be a kind of squid whose principal weapons were the elastic strength of its blanketlike tissues, and the incredible concentration of its digestive juices. Its entire underside must be made up of thousands of tiny suckers, each of them secreting the corrosive substance that had picked clean the bones of Lenoir, and removed the skin from my cheek in the few seconds it had retained its hold on me.

I marvelled at my escape, and then something about the immobility of the two monsters, each in the opposite corner of the room, seemed to offer a clue. These creatures must be natural enemies and the nearness of the giant crab, if such it was, had frightened my assailant who had tossed me aside in the expectation of a much grimmer battle. I had no doubt that, with the recession of the plankton and the absence of natural prey, hunger would shortly drive them to prey on each other. This, said I to myself as I motioned Barney to the glass, might well prove to be the solution of our problem. I hoped we should not have long to wait.

But we were not so lucky as to be freed by an immediate battle. Four times we took turns in our visual reconnaissance and not one of us was able to detect the slightest aggressive move on the part of either monster. One might have supposed the ungodly thing at our feet dead except for the faint rippling iridescent play of color that passed, from time to time, over its skin.

Across the saloon I could see the faint outline of the wardroom doorway, and I knew that the men of the afterguard must be doing very much as we were doing. But I felt sure that they could not see the black nightmare that lurked in the blind corner close by them, felt with equal certainty that through the intervening haze of the aquasphere the squid was invisible also. Fearing that seeing nothing in the saloon they would sally out, I apprized them of the nature and positions of the two horrors and, when I received an acknowledgment of the message, I returned to our tiny headquarters with Dutch and Nucci, after posting Barney for the first four-hour watch. When the battle began I wanted to be among those present.

Darkness closed down again. Fore and afterguards exchanged messages of "All secure."

Turn and turn about, we succeeded one another in our watches at the saloon port. Nothing happened. Neither creature stirred.

Morning broke; the day advanced. Throughout the ship the aquasphere had returned to its normal cloudy green. Visibility was better and now we were able to make out the black creature in the far corner for what it really was, a gigantic crab, black as night. Its outlines were hazy still but quite unmistakable. The monster crouched in its corner absolutely motionless, its claws resting on the deck before it. The squid lay equally immobile. But the play of colors that rippled over its surface seemed brighter and more rapid. Other than this there was no change, until well past the second hour of the afternoon when the light began to fail.

● The tedium of watching and waiting had begun to tell on all our nerves. Frequent messages from the afterguard had ceased. Barney and Nucci glared at each other on the slightest provocation or no provocation at all. Even Dutch was hard put to it to keep the peace.

At the third hour Barney went on watch, leaving the rest of us to twiddle our thumbs. Dutch sprawled on the deck, Nucci curled up on the locker and I stood at the port staring moodily out into the abyss. Thus fifteen minutes or more dragged by.

Abruptly a shock of excitement tingled through me. I streaked out the door and up the passage, Dutch and Nucci close on my heels, and shouldered the rapt Barney aside to get my own eye to the glass. Things were beginning to happen. The deck in front of the passage

door seemed to be moving forward with a strange flowing motion that hypnotized the beholder into an almost irresistible impulse to follow it. The squid was moving to the attack.

I was barely aware of the jostling confusion close by me and, when it stilled, I knew that all four of us were looking through that glass at the same time; how the miracle was wrought is a mystery to this day. Then even that awareness, faded before the absorption of watching the death struggle of those ghouls of the abyss.

Once committed to the battle, the squid lost no time. With its rapid flowing motion it crossed the saloon, the iridescent play of color brightening each instant until it seemed a thing of living flame. The crab, without moving its position, raised its great claws and opened them wide in a gesture of silent menace.

The uncanny silence of the depths and the mute drama taking place within that silence—shrouded by it; its misty setting illumined by the strange glimmer of the cold-lighted walls—these things combined to heighten the effect. It was a tableau eerily strange and terrible beyond the power of words to express.

As the squid drew near its enemy, it slowed cautiously, then stopped. The crab did not move out but its claws opened and closed ever so slightly. For minutes they faced each other.

Then the squid with amazing quickness reared its body high and flung itself forward. A great claw met it midway and hurled it back in a writhing heap to the middle of the deck. Before it could gather itself together again, the crab darted forward and was upon it, rending with gigantic claws the seemingly fragile tissues of the attacker. With insane ferocity the shear-like pincers met and tore and closed and tore again at the writhing fiery thing that hung so limp and helpless in its grasp.

And then, one of those limp portions of the squid, its underside pitted with innumerable little suckers, trailing under the belly of the advancing monster, whipped up and fastened itself over the back of the crab. Another limp filament fastened to a leg, another bound itself over the stalklike eyes of the monster crustacean. Then the squid, its hold now established, fastened, little by little, around the entire body, leaving only the claws and the legs of its adversary free.

Frantically the crab scuttled about the saloon, its iridescent enemy bound like a great caul around it. Blindly it hurled its body against the walls, striking in a frenzy at everything it touched, until the lower pincer of one claw hung broken at its joint. The other struck feebly a few times more, then quivered and sank helplessly to the deck. In a matter of seconds after that the armored monster's legs buckled, and with a few final spasmodic twitchings it sank down in a corner of the deck. The victor, its body rippling with shuddery, rhythmic palpitations, grew thicker and larger even as we watched. The fight was over and the meal was well in progress.

As a man the thought struck us that now, if ever, was our chance to win back to the rest of our party. Silent cooperation on the part of all was everything I could have desired. While I rushed back to Lenoir's study, Nucci and Barney spun the keeper screws of the door. Hastily I slung the compass strap over my shoulder and took the Atlas case in my hands.

Dutch, meanwhile, had, by main force and a little leverage with his axe, wrenched the table top with its direction lines from its metal base. As he did so a faint blue flame spat from the open top of the column. As I passed it, I saw the glittering ends of three copper wires projecting upward. Evidently there had been after all some electrical connection—reserve potential in the magnet room, no doubt.

At the threshold, moved by some impulse I cannot explain, I turned back and took three of the metal plates graven in cipher from the doctor's note-case. I slipped them in my pocket. Then I followed the rapidly moving Dutch into the passageway, and the four of us streaked out of the open door and across the saloon, not trusting ourselves to look at the grisly thing in the corner.

Even as we reached the after bulkhead, the wardroom door opened to receive us, for Boaz had been on watch at the crystal. Such a rousing welcome as we got, it has rarely been the lot of any man to receive. In triumph we placed our trophies on the wardroom table and, in a few minutes, everybody knew our story in all its details. For my part, I delegated the hero fatigue to Dutch, Nucci and Barney who took it upon themselves with relish. With my officers and Diane an interested spectator, I produced the little Atlas and sketched from it, on a piece of crumpled paper, a rough map of our general line.

I found, that a line drawn from the position of my own ship, through that of the *Girondelle,* would strike the coast not very far, how many miles I could not guess, from where my reading of Lenoir's knowledge had indicated that the subterranean passage leading up into the crater lake would be. Estimated on a basis of proportional distance traversed from our own ship to the *Girondelle,* the journey to this point should take us no more than four hours walking at an ordinary pace. We ought to get there by midday, if we started as the aquasphere began to lighten in the abyssal dawn.

But at this point of my calculations, Halliday pointed out that by that time the monster in the saloon would have finished its feeding, and, after what we had seen, we were by no means certain of our massed ability as a successful offset to its formidable fighting powers. Both Halliday and Boaz concurred in urging that, the darkness notwithstanding, it would be better to start at once. After a little thought I felt myself that action, however dangerous it might be, would be preferable to staying longer in that ill-omened ship.

A second incentive, not less strong, was the thought that we might lose some time in finding the crater passageway, in which case there was every likelihood that darkness would come upon us unprotected on the edge of the abyss. The upshot of the council was, therefore, that preparations for shoving off should be completed at once.

By the time everything stood in readiness, I had worked out the angle of divergence from the straight line drawn through the two positions. Plotting with my compass, I planned to strike the coastal cliff a little to the northeast of the supposed passage, so that we should not be compelled to split our party and search both ways if we did not come to the entrance at once.

My compass was cold-lighted, fortunately, so that darkness offered no obstacle to keeping direction. But, as an added precaution, I gave orders that the men should chip bits of the luminous enamel from the wall and keep it by them for emergency use. In small quan-

ities the light it gave was not great, but it was better than no light at all.

Thus equipped, we waited while Nucci and Dutch went forward and opened the sea-door. In order, but without loss of time, we filed out. I was supporting Diane as we passed the sluggish, bloated horror in the corner not ten paces from the door.

My heart warmed to the girl I had met under these eerie circumstances and to whom I and my party owed our lives twice over. Some of the men flinched involuntarily. The girl kept her eyes straight before her, walking beside me until we had gathered in a group in the dark limitless void of the abyss. Then I was conscious of her nearness and my arm stole comfortingly around her waist.

In spite of the vastness and sinister mystery of the element that closed about us, in spite of the dangers that lay before us, never had we felt a deeper satisfaction than at the moment we saw Barney, Nucci and Dutch draw the sea-door shut and lock it, imprisoning the great squid and his dead prey together.

When the three of them joined us, we made our way around the half buried bows of the wrecked space-liner, and turned our faces toward what we prayed was to be the last lap of the journey.

CHAPTER X

Lost!

Profiting by the experience of our march from our own ship, this time our party kept together. We proceeded steadily forward, pausing from time to time as I re-oriented the compass. Our rate was necessarily slow, owing to darkness and the resistance of the aquasphere, not over two and a half knots an hour. But that, in view of the relatively small area of Callisto, was excellent speed, considering the adverse conditions that opposed us.

For two hours, as nearly as I was able to judge, we went ahead steadily over smooth calcareous sand with no difficulty worthy of remark. Then, just as light began to filter down into the abyss, dark rock began to appear along the lightish plain, giving it the appearance of an irregular checkerboard, whose far edge continually unrolled out of the opaque foreground. This we hailed as a sign that we were drawing near the precipitous shore formations.

The terrain became progressively rockier, and the going correspondingly harder, until our progress was arrested to a heartbreaking slowness. We had to pause every few minutes for rest.

As leader, the duty of indicating direction devolved upon me, and my position was at the head of the column. As we fought our way over and through the labyrinthine mazes of the rocks, this duty occupied every instant of my time. I was hard put to it to save my own neck and, what was more important for all hands, to keep the compass from being broken. I worried a little about Diane until I saw that she was in the competent hands of Boaz and Halliday. Barney, Nucci and Dutch were at the rear of the column, keeping the men closed up by the judicious use of the flats of their axes or their redoubtable fists when persuasion was needful. Keeping together was vital. Time was now an essential factor and we could not jeopardize the entire company in a hunt for stragglers.

To my great happiness we met not a single living creature in all that vast wilderness of barren rock. In all my experience I have never seen an area so utterly desolate. There was not the most rudimentary evidence of vegetation, living or dead, to be seen.

By the end of the first hour of the morning we had passed beyond the area of lime sand. Everywhere about us now, was rock as black as coal, but of a smooth, dull surface. Higher and higher rose the rugged outcroppings so that we could no longer make our way over them. We had to go round them, threading our way through narrow passages and defiles of black rock that rose high on either hand. These cut off our light to such extent that in places we had to feel our way step by step. Every few minutes we paused for rest but never until we had reached little clearings where the light was fairly strong.

I began confessing to myself that I had almost come to the limit of my strength, where now I needed the full command of my faculties. Ever so often a feeling of vertiginous weakness would sweep over me. At times the compass needle seemed to waver, and I wondered whether this were actual or whether my vision played me tricks. Was it fancy that suggested to me a different something about the light, a brighter something? Why this overwhelming lassitude? Was the aquasphere growing warmer?

That was it! The aquasphere was growing hotter! We were approaching the inshore limits of the littoral where the aquasphere was shallow and was heated and lighted by the reflected heat and light of the sun as if shone on the cliffs!

The realization nerved me for the final effort that was needed. Five minutes more of hard going brought us up sharp at the foot of a smooth cliff that curved upwards in an unscalable angle and was lost in the misty glimmer of the upper reaches of the Da'Elin. We had reached our first objective.

In a brief council of war we decided that in spite of our weariness our best course would be to push on. We feared that if we remained without moving in the heat of the littoral aquasphere, we should not have the strength to reach the goal or the alertness to search effectively for it. Accordingly, we turned and began to follow the edge of the precipice in a direction that was roughly south-westerly, though the outcroppings and indentations at its foot led us a tortuous and inconsistent journey.

It was only here, I believe, that real apprehension began to be felt in all its overwhelming force. We were keyed to such high hope! What if that hope should be blasted? What if the passage were higher in the face of the cliff than our limited range of visibility permitted us to see. What if my calculations had been in error and we were going away from, instead of toward it? I tested my compass. The needle still held to its pole but not so firmly as I could have wished.

What if my understanding of Lenoir's thought processes had been faulty? What if there were no channel that led into a cool crater lake? And what hope had we, if such were the case, or ever rising through the boiling surface of the Da'Elin even if we were able to find a way of scaling the smooth granite-like precipice? Or had the strength? For with the onset of weakness, a gone feeling in the pit of my stomach, and a general sense of despondency told me that I was hungry.

We had left the nutriment areas of the Da'Elin behind

us. With no certain way of finding the *Girondelle* again, even if we had desired to return and fight the horror that was in it, for possession, I doubted if any one had the physical strength for the return trip. We must pin our hope on finding the tunnel to the crater. If this failed us, slow starvation was the best we could expect.

By the fourth hour of the morning we had reached the point where according to my calculations the opening of the passage that led to the crater ought to be. Here the party stopped, as by a single accord, and sank down in frank exhaustion.

I went to Diane whom Dutch, as the only man with the necessary strength, had carried in his arms for the past hour. She sat with her head thrown back against a great rock, her eyes closed with weariness and her breath coming rapidly like that of a person who is on the verge of heat prostration. Halliday knelt by her helplessly. Impulsively I stooped and kissed her, openly and without shame. Startled, she opened her eyes, just for the barest instant, then closed them again and returned my kiss.

● As I rose to my feet again, I noticed a singular restlessness among the men. Three of them were walking frenziedly about, their faces twitching with sheer nerve tension. One of them passed within reach of Barney. The latter, mouthing an oath, reached out a hamlike hand, caught hold of an ankle and tripped the fellow flat on his face.

Instantly the man went berserk. He rose to his knees and brought round his axe in a back handed blow that would have finished the Irishman if it had found him. But Barney wasn't there. He had leaped aside as he saw the blow coming and, losing his footing, had rolled down a little slope that fell away from the tiny stone plat where the party was resting.

Now the would-be murderer rose to his feet and stared at the spot of the Irishman's disappearance with open-mouthed astonishment. Barney had disappeared as completely as if he had melted into mists of the Da'Elin.

Together we crowded forward, advancing carefully down the slope and peering before us. Steeper and steeper grew the slope until I called a halt. To my surprise the men did not heed the command. Not until I extended my arms in signalled command was there pause. There could be only one explanation for this. *We were beginning to think individually again.* The abyssal vantage-ground for mental communion lay behind us.

Giving my compass to Boaz, to whose care I had also entrusted the magnetic Atlas, and motioning him to keep back, I cautiously edged forward in a prone position, feeling my way until I reached a point where the slope literally fell away from my exploring hand. Then, with the utmost care, I backed my way up the incline to the waiting men and indicated to them by pantomime and a shrug of my shoulders what my findings had been and the probable fate of poor Barney.

Dejectedly we went back to the little plateau. The men gathered in knots, gesturing languidly as they realized that now we were without the capacity of either spoken or thought communication. Boaz, Halliday and myself assembled around the compass.

I had done the best I knew how. Now, as difficulties and obstacles came thicker and faster each instant; I confessed that I was at my wits' ends. Intelligible and full communication, as matters now stood, was next to impossible. We could not communicate by speech or by thought. Just when the faculty of image-projection left us it was of course impossible to say because actuated as we had been by a single purpose from the time we left the *Girondelle*, there had been no need for conferences; the undersea trek had been merely a matter of follow-the leader. Now only the language of gesture remained to us, all writing equipment had been left behind.

Laboriously I thought the situation out. We might continue further but only at the risk of passing our objective. Especially was this true in view of the erratic behaviour of the compass. If we scattered, leaving every man free to scout for the passage on his own initiative, then how, assuming one man found it, might the party be assembled again? If, on the other hand, we decided to carry on as a unit, our speed and mobility would be cut down. Then, when hunger and exhaustion overtook us, we should succumb without resistance.

As I saw it, the most effective utilization of our strength, in this last desperate emergency, would be to split up our forces into three equal bodies. I would command one, and Boaz and Halliday the other two. Then while two of us waited and rested on the plateau, the other, taking the compass, could reconnoitre as far as his strength permitted and return with his findings. The reconnaisance would be continued in the other direction by the commander of the second detail and so on until either we succeeded in finding the passage or death put a merciful end to our hopes and efforts.

This idea I managed, with some difficulty, to convey to the other two. I signalled with my finger in old international code, indicating dots and dashes by taps and scratches on the black sea floor, lifting my hand a few inches at the end of each word. This was hailed as an inspiration, which no doubt it was. Odd, how the most desperate needs sometimes give way to the simplest solutions!

The plan met with general agreement. Our company having been divided into three details, Halliday with his following left us to explore, somewhat further along the foot of the cliff, in a south-westerly direction. I went with him a little way, waved him Godspeed and turned back to rejoin my men. I came upon the plat just in time to witness the end of a quiet little tragedy whose beginning I had been too occupied to take note of.

My first inkling of something amiss was when a circle of men gathered about the burly figure of Dutch hurriedly scattered at my approach. Dutch alone stood fast, methodically scraping his axe upon an outcropping of rock. At his feet lay a huddled object which, as I drew closer, I recognized as the man who had been the occasion of Barney's loss. I stopped and stared down at it for a moment. As I did, Dutch turned and stood stolidly, his legs wide spread, his hands on his hips.

There was nothing I could say. What he had done was an act of justice as he saw it. I motioned him to take the body out of sight and, as he lifted it to his shoulder and moved toward the edge where Barney had so lately disappeared, I turned back to the business of plotting the direction of Boaz's detail.

Two hours passed before the first reconnaisance party returned to us, less one man whose overstrained nerves had given way to madness and who had turned his knife

upon himself. With vacant apathetic faces, staggering with hunger and weariness, the men threw themselves down and slept in a stupor of exhaustion. All Halliday had to report was an unbroken monotony of black cliff on the one hand, and the edge of the slope down which Barney had gone, on the other. They had advanced until another sheer drop had barred the way. From this Halliday inferred that we must have found our way along a kind of shelf that ended in the southwesterly direction, at the drop whose brink he had explored:

● It was now the second hour past noon but there in the shallower depths of the aquasphere, while the discomfort of the humid heat was greater, the light showed no sign of dimming. I rightly conjectured that here we might expect a somewhat longer day than the short eight hours of the abyssal plain. It was accordingly decided that Boaz was to venture out upon the second reconnaisance at once, returning the instant the light began to fail.

It was with mixed feelings that we watched him out of sight. We now knew that to the southwest there was no subterranean passage. We had already reconnoitered the ground that Boaz was now going over. There was little hope in our minds that he would find what we, with eyes sharpened by the love of life, had overlooked. It was simply a last, never-say-die gesture. As such, I think the most of us took it.

By the time he returned, darkness would be upon us again. In the morning, provided that we had physical strength, what was there left for me with the third reconnaisance party to explore? On the one hand rose the smooth black rock rising to what heights no one could tell. We might scale that until the torrid aquasphere of the higher levels became too hot to bear, then we should be back where we were before. On the other side dropped a smooth descent to—What? An inviting slide—smooth, sinister and enigmatic—the end of which lost itself in the baffling, opaque mistiness of the Da'Elin. Over the edge of it Barney had vanished; over the edge of it the body of his would-be killer had followed, propelled by the powerful shoulders of Dutch. In the damnable sound-inert medium they had vanished wraith-like.

We could not tell what lay over the brink, how deep it was by sound. And we had no ropes. Shirts and all superfluities of clothing had long since gone by the board in the interests of freedom of movement. It was only through courtesy to Diane that we wore anything at all. Shreds of trousers most of us still had, but many of these were too scanty to be trifled with in the interests of decency. There were belts, however.

I rose to my feet and staggered over to my sprawling command, requisitioning all belts and such strips of cloth as were not absolutely essential. Dully the men gave them up. With my spoils in my arms I returned to Diane who was by now a little rested, and together we tied strips of cloth and straps of leather end to end, until we had a fairly strong line about fifty feet long. Then, with my axe, I chipped a small piece of rock and tied it to one end.

Thus equipped, Halliday and I followed by the invaluable Dutch and Nucci, crept cautiously to the edge of the steep where, as the dangling end of a human chain, I managed to get a good deal farther over the brink than was altogether consistent with safety. From here, little by little, I began to pay out the line of my improvised lead.

At about six feet the line slackened and then in an instant grew taut again. I could tell from the feel that the stone was rolling down a steep slope. At ten feet it grew slack again and remained so.

This was more encouraging than I had dared hope. Now for the final test. I knew that there was a fairly level shelf about ten feet below our position. Whether that shelf was wide enough for men to drop down to remained to be seen.

I drew up the stone and cast it straight out so that it would begin to drop vertically about twelve feet out from the edge. Out and out coiled the line; down went the stone and with it my hopes. With a jerk the stone reached the end of its tether and then I felt the line go slack.

I pulled it in—that is, what remained of it. And, as I dully fingered a frayed end, I broke into a convulsion of silent hysterical laughter. My nerves were strung to the breaking point. What I thought of then, and mercifully, was not that my last hope of finding the path to the crater had gone, it was how fifteen good men and true of my command would keep their trousers on.

My ridiculous outburst lasted for only an instant; by the time the others had drawn me back to safety I was able to assume the semblance of a composure I was far from feeling. To be a rock-ribbed hero of fiction, who rises to every emergency with calm and adequate efficiency, is one thing but to be a human being with responsibility for the lives of others in a situation past flesh and blood's bearing, is quite another. When I had apprized my companions of the situation, by the dot and dash method, I returned to Diane's side, took her hand in mine and relapsed into a kind of stupid apathy.

It was now late afternoon, as nearly as we were able to judge, and the light had waned to such an extent that clear vision was difficult. I began to feel a dull disquietude for Boaz and his party. Dragging myself upright, I crossed the little plat to the other side where Halliday was sitting with the men. Three of these, I noticed in passing, were lying unnaturally still. I paused, swaying on my feet and examined them more closely. With the detachment of one in a dream I saw that two of them had stabbed themselves and the third had cut his throat.

"A good idea . . . a good idea . . ." I remember saying, over and over to myself, though I hardly understood the meaning of my own words. And then, the eerie world seemed to swim about me in my hunger and misery and weariness, and a blackness came before my eyes. I remember no more except the sense of falling an infinite, infinite distance.

CHAPTER XI
Out of the Depths

● When I came to myself, the undersea wilderness lay in pitchy darkness. Unconsciousness must have merged into sleep. In my heart I wished there had been no awakening. I wondered dully whether Boaz had returned and, if not, what had happened to him. I wondered whether the compass had led him in some hopelessly wrong direction, remembering that I had warned him it was not to be depended on.

My thoughts turned speculatively to the reason for

the erratic behaviour of the magnetized needle. Had the *Gotham's* magnet lost power or had our nearness to the upper world brought us within the sphere of a rival magnetic pole? Or again, it might be that we were in the region of the Callistan aclinic. After this, my mind drifted into a confused medley of memories, impressions, speculations, for I know not how long.

With the first brightening of the early light, I rose stiffly to my feet and made the circuit of the plateau. Diane's eyes were open. As I kissed her she smiled bravely. But the despair in her eyes belied the smile. I turned away quickly and crossed to where the men lay together in sprawling attitudes of stupor, the living too lethargic to stir away from the dead. With a lack of inner shrinking that frightened me, I saw that a great piece of flesh had been cut from one dead man's thigh. One by one, I lifted up the corpses and pushed them over the edge of the shelf. If die we must, we should die like men. There would be no cannibalism. That I determined.

As the light grew stronger, the men sluggishly roused themselves. The wretch who had lain by the mutilated suicide raised himself on one elbow and stared stupidly at the empty place. Then he looked up, met my gaze and dropped his own before it. I turned away and crossed again to Diane. Some time that morning the man disappeared. What became of him remains a mystery of the Da'Elin.

I dropped down beside Diane and took her hand in mine. Together, we sat mutely understanding and at last resigned. I closed my eyes, wondering whether it was to be like this or whether, in the end, we should follow the example of the men with their knives. I closed my eyes.

A sudden rough tug at my arm roused me. It was Halliday. Boaz was standing above us with a fierce exultant joy on his rugged face and his party behind him. Across the clearing my men were rising to their feet. Already Dutch and Nucci had hold of the gnarled, barrel-chested little man who stood behind Halliday, and were pounding and pinching him to see if he were real.

He was. A violent motion sent Dutch and Nucci reeling. *It was Barney, very much alive!*

It needed no language to tell the story of success. With a few dots and dashes, Boaz made the situation fairly clear. Barney, in his plunge over the edge, had found the passage that we had been so vainly seeking. Boaz and his party had met him on his way back to us. Boaz had left his men to wait, as it was needless for all of them to make the return journey. He had come with Barney as soon as the light permitted, to guide the rest of the company to where his own men were waiting.

Revitalized by hope, we started at once and, in fifteen minutes of rapid going, all survivors of the wreck of the *Gotham* were again united. There were a thousand questions I wanted to ask, foremost among them, how Barney had survived a drop of over fifty feet, but questions, of course, could come later

We found Boaz's party at the upper end of a little ravine that sloped steeply downward, its lower extremity obscured by the aquasphere. A gesture or two made clear to me how the party had met Barney struggling up this ravine. Night being at hand and the compass useless, they had chosen to wait where they were, in preference to taking a chance of losing their way in an effort to rejoin our company.

With Barney in the lead we stumbled and slid down the rocky passage. I followed next after our guide. Thus we came, at length, to a more gentle slope and there Barney began to go more slowly, finally raising his hand high above his head, in a signal to halt. I repeated the gesture but incautiously took one step to the left whereupon I slipped suddenly downward. As I lost my footing I felt the resistance of the element increase enormously and in an instant I was coughing, strangling and flailing desperately with my arms.

A hand grasped my shoulder and steadied me on my feet, and Barney's grinning face reassured me. Like a flash, the incredible truth burst upon me. *I had slipped and fallen in water!* Now for the first time I understood Barney's escape and the mystery of the broken sounding line. It was as simple as A B C. Ten feet below the ledge, where we had sat despairingly so short a time before, was a steep incline that fell away into a deep lake of water—real water. It was snow water that, melting in the crater and flowing, little by little, through its underground channel, had filled a great depression in the rocky floor of this area.

This water, having greater density than the air-like fluid of the Sea-of-No-Returning, was uninfluenced by its normal currents and, being in a fluid medium, did not diminish by evaporation. As the snows on the crest of the crater melted and their waters raised the level of the lake, the overflow ran out through the tunnel in the rock and swelled the volume of this great undersea lake.

The warmth of the Da'Elin gradually heated it almost to its own temperature. Unless one knew its location, its existence would normally escape notice in a misty medium like the Da'Elin; it was liquid of a heavier density in liquid of a lighter. Hence my mishap.

As for Barney, the worst of his adventure had been a ducking. After realizing that, provided it were not underwater, the source of the lake could be found by following its edge, he had explored until he found it. Then he followed the rocky margin in an effort to find a practicable ascent that would give him access to our party. This had been less easy than he had at first supposed. By the time he came to the ravine, working his way over the rocks and swimming when necessary, Boaz's reconnaisance detail had got to the same point.

As we left the ravine behind us, we entered a world more strange and eerie than the other, if that were possible. If that other world of the abyss had been freighted with the constant terror of nightmare monsters strange to the eye of man, here the silence, the barrenness, the utter desolation pressed in on one like a sensate force. As our eyes accustomed themselves to our new surroundings, we perceived a slight difference in the light quality if not in the color of the water, in contrast with the greenish opacity of the Da'Elin. There was more blue in it.

Slowly we went forward, keeping always together. Sometimes we scrambled over jagged outcroppings of rock or stooped to pass through close openings between them; sometimes we were wading neck deep in water. As nearly as I was able to determine, we were proceed-

ing in a south-westerly direction along the margin of the lake, back the way we had come.

On our right hand bluish opacity stretched away and melted into nothingness. On our left, rising abruptly from the narrow apron of rocky shore, the shelf along which our party had wearily made its way rose vertically, and beyond that the black walls of the great sea-precipice dissolved in glimmering distance. We were not slow in understanding the difficulties Barney must have experienced in finding a path of ascent. Where before, it had taken us no more than fifteen minutes to reach the ravine where Boaz and Barney had met, it took us a full two hours and longer to reach the little point of rock where Barney stopped and raised his hand to call a halt.

Quickly the column closed up until the party, now dwindled to twenty-seven, had gathered behind our guide at the end of a rocky peninsula, for a distance of perhaps two hundred yards, it jutted out into the lake. When all were there, Barney, who was not without a sense of the dramatic, pointed shoreward to a little basin or indentation that struck inward under a jutting shelf of rock. He indicated, by pantomime, that we should have to swim from where we were to the inner shore of the basin, which we were able to make out as a gentle slope of smooth black rock. What lay beyond that was hidden from us by the aquasphere.

For several minutes we stood gazing and I feel sure that all the love of life we felt was in our eyes. And it seemed to me that I recognized something about the place. I puzzled a moment and then Barney's reminiscent grin brought the truth home to me. We were standing just below our place of original departure. We had been on the point of giving up hope when the very avenue to life lay, not the height of a man beneath our feet! All our seeking, and all our heartbreaking disappointments, had failed to bring us to the place that Barney, with the luck of the Irish, had fallen into!

Signalled inquiry brought to light the fact that about half of the company could swim. Accordingly, we arranged them alternately, one man grasping the shoulder or girdle of the next before him with the left hand leaving the right hand free for paddling. In this order we crossed the hundred yards of water without mishap, coming out upon the slope of Black Rock. This we now could see, shelved upward to the mouth of a passage some twenty feet in height and of roughly oval bore about twenty feet above the level of the lake. As might be expected, the rock was wet—dark as the mouth of Avernus—and hot with an up-draft of warm currents from the Da'Elin.

Still clinging to one another, not to lose contact in the pitchy blackness, we plunged into the mouth of the passage, thanking providence that no greater obstacle than this had been placed in our way. Some of the men produced their bits of luminous enamel, in the hope of creating a spark of light, but the natural blackness of the passage and the steamy mist of the Da'Elin made them worthless. Steadily we labored upward with the patience and persistency of ants. Occasionally we paused for a few minutes rest, but not often. Hope of seeing the light of day spurred us on with preternormal eagerness and vitality.

Hour followed hour and still we plodded forward until outraged nature took its toll of the strongest. We stopped and threw ourselves down and slept, and then continued on our way again. We lost track of time, though I am sure that we must have been in that tunnel a full twenty hours.

At length we began to notice a change in temperature. It was growing cooler. For half an hour after this we struggled onward, always climbing, sometimes steeply, sometimes almost on a level plane. Four times we stumbled against the rocky walls as the cavern made an acute turn. Then suddenly, as if we had passed abruptly from one sharply defined stratum to another, I experienced a sensation that I can only describe as a swimmer's feeling as he shakes the water out of his ears. At the same moment Barney uttered a Celtic howl of delight. *We heard!*

To a man, we stopped and stood still, and howled and screamed like madmen. We shouted inconsequential things, words for the pleasure of their sounds. We drew long breaths of *air*. Oh, the lightness, the freedom, the winey luxury, the exhilaration of that feeling—the magic stimulus of the crisp cold air! We shivered and rejoiced. We broke into a scrambling trot, first for sheer joy, and afterwards to warm our blood against the cold.

● Fifteen minutes of this and another wild howl from Barney, who was capering ahead of the procession, announced that the end of the tunnel was in sight. Sure enough, as we rounded a slight bend in the rock, we were greeted by a kind of brightness. Another bend and we piled up behind Barney whom ragged outcroppings in the floor had slowed somewhat.

We advanced more slowly until we reached an abrupt upward slope, and at its foot we stopped, narrowed our eyes against the glare for a few moments. Then we stood at gaze like rapt worshippers of olden time who looked upon the Grail. There before us, framed in the jagged cave-mouth, was a patch of blue sky. And, as we looked, a white filament of cloud skimmed its edge. Diane was at my side. I put my arm round her and drew her close. Looking covertly about me, I saw that tears were coursing down the cheeks of my men as openly as they were down mine.

Not a word was spoken but if ever a sincere prayer of thankfulness went up, to whatever power rules the universe, it went up from our hearts that hour.

At length we roused ourselves and climbed the slope, coming out upon a broad shelf of rock, at the mouth of the passage, into the open sunshine. At our feet lay the crater lake, tranquil, without a ripple. Its limpid turquoise blue mirrored the opposite slope which rose steeply to a height of perhaps a thousand feet above the surface of the water, its summit edge glittering with a light powdering of snow. Stillness brooded over the lake, peace, and oh! how blessed a contrast it was to the silent hell we had left behind us! For minutes we stood, drinking in the tranquil beauty of the upper world—our world, until the biting chill brought us back to the exigencies of the present. There was the necessity of finding shelter and food before hunger and exposure overtook us on the threshold of success.

A thoughtful estimate of the terrain satisfied me that the slope, while steep, was not too steep to climb with safety. Everywhere, were outcroppings of black rock, but the surface was broken, and there were veinings of

rough porous stone that offered footing. There were, also, large areas of thick grey-green lichens that covered the rock and the limestone deeply in places, and gave to the slope its mottled velvety color quality.

Without more ado, therefore, I began to climb. The rest of the company followed in single file and an hour of hard mountaineering—counting frequent stops for breath—brought us to the edge of the snow line. Here we broke into a scrambling trot, Dutch picking up Diane in his arms and carrying her bodily.

At the crater's crest I paused with Halliday and scanned the terrain below us. Boaz and the men rolled, slid and tumbled down the outer slope until they stood, a short distance below the snow line, looking up at us expectantly.

Eagerly, we searched the undulating, treeless plain, strewn with volcanic rock, straining our eyes for sign of human life. We found none. Halliday, with a shrug of his shoulders, started down the slope. I was about to follow when I fancied I saw something move, near the base of a great black boulder, about a mile from where we stood. A shout recalled my second officer.

I pointed to the spot and we both stared fixedly. Something stirred again among the rocks, and then three human figures, no larger than ants in the distance, moved across an open space.

"Nucci," I howled. We ran to meet him as he came bounding across the snow. I pointed out the three men. In an instant he was tearing down the slope toward them; another instant and he was lost to view among the rocks. Halliday and I hastened down to the company and, with a word of explanation, we followed Nucci as fast as we were able.

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Of the rest, there is not a great deal to be told. Twenty minutes brought us to the tundra-like plain at the foot of the mountain and, as we stood debating in our minds whether to go on or wait for Nucci, the little Italian hove into view. Three little slant-eyed men followed him, geologists from the Nunei Academy of Science who were studying the rock formation of the singular plain in an effort to deduce from it the probable nature of the Da'Elin.

Their expedition, oddly enough, had been prompted by the wide public interest and alarm—are not these in essence the same?—roused by the broadcast of the disappearance of my ship. By calculating our position, as last given, and the probable deviation caused by the meteorite shower, the base at Nunei had shrewdly conjectured that the Da'Elin had claimed us. The traveling public demanded an exhaustive inquiry into the nature of this sinister area, and interstellar transport companies, foreseeing a falling-off of passenger traffic, had arranged an expedition which a fortnight ago had arrived from earth and was waiting at Nunei.

The gentlemen*, who had so providentially been the means of our succour, explained all this. I might add, only after they had ferried us by fours to their camp in their rocket runabout, and had seen that we were warmed and had given us a hearty meal. Then, as we sat about a campfire of dry moss, under the lee of a great rock that sheltered us from the wind, they told us their story in the clipped, precise language of Nunei; and with the quaint formal courtesy that makes a visit to their planet so memorable an experience.

When our turn came and, as spokesman, I told them of our findings, and displayed the magnetic Atlas and the cipher plates from Lenoir's library, the strange little men trembled with excitement and enthusiasm. One of them sprang to his feet.

"M'Wai Kalontai Da'Elin Nunei'tos eri'ondau!"—"You must lead the joint expedition from earth and Nunei to the Da'Elin!" he cried.

But I laughed and shook my head and as in explanation—or was it excuse?—I put my arm round the waist of the dear girl who sat by me.

Twilight was falling. The men turned to with a will, gathering dry moss and lichens to keep the fire going through the night. Diane and I sat silently gazing into the embers before us while the sky darkened, and the night wind moaned softly among the rocks.

Our reverie was sweet but short-lived. From beyond a little hillock came the sound of furious voices. I heard the epithet, "White naygur" from Barney and an unprintable response from Nucci, followed by the thudding of blows and the howled encouragement of the gallery; then silence and disappointed snarls. Angered, I sprang to my feet, only to sink down again as Dutch came lumbering down the slope, pushing before him with no gentle hand our company's bad little boys. Had all other signs been wanting of our return to the workaday world, the renewal of this feud would have been enough.

* * * * * * *

It was not long before the fuel for the night lay in a great heap against the rock. Our hosts had put all their blankets and tarpaulins at the service of the men, and had joined the weary circle at the fire's edge, after turning over the rocket runabout to Diane for her private castle. On the morrow, she and Boaz and the three Callistans would start for Nunei, and there arrange for a transport ship to come back for the rest of us.

An hour passed and the exhausted men about the fire lay deep in slumber. Together Diane and I sat in the doorway of the runabout, wrapped in robes which our hosts had loaned us. My arm was around her and her head was on my shoulder.

The night wind crooned among the rocks as I drew her closer. She laid her cheek to mine and we gazed up at a pin-point of light, high in the heavens, to us, the loveliest in all the universe—Earth. Above it a meteor whirled out of the void and glowed brilliantly, a blossom of fire in the great night-garden of space—glowed for an instant and then paled into nothingness. *Falling stars* they called such things in the quaint olden time.

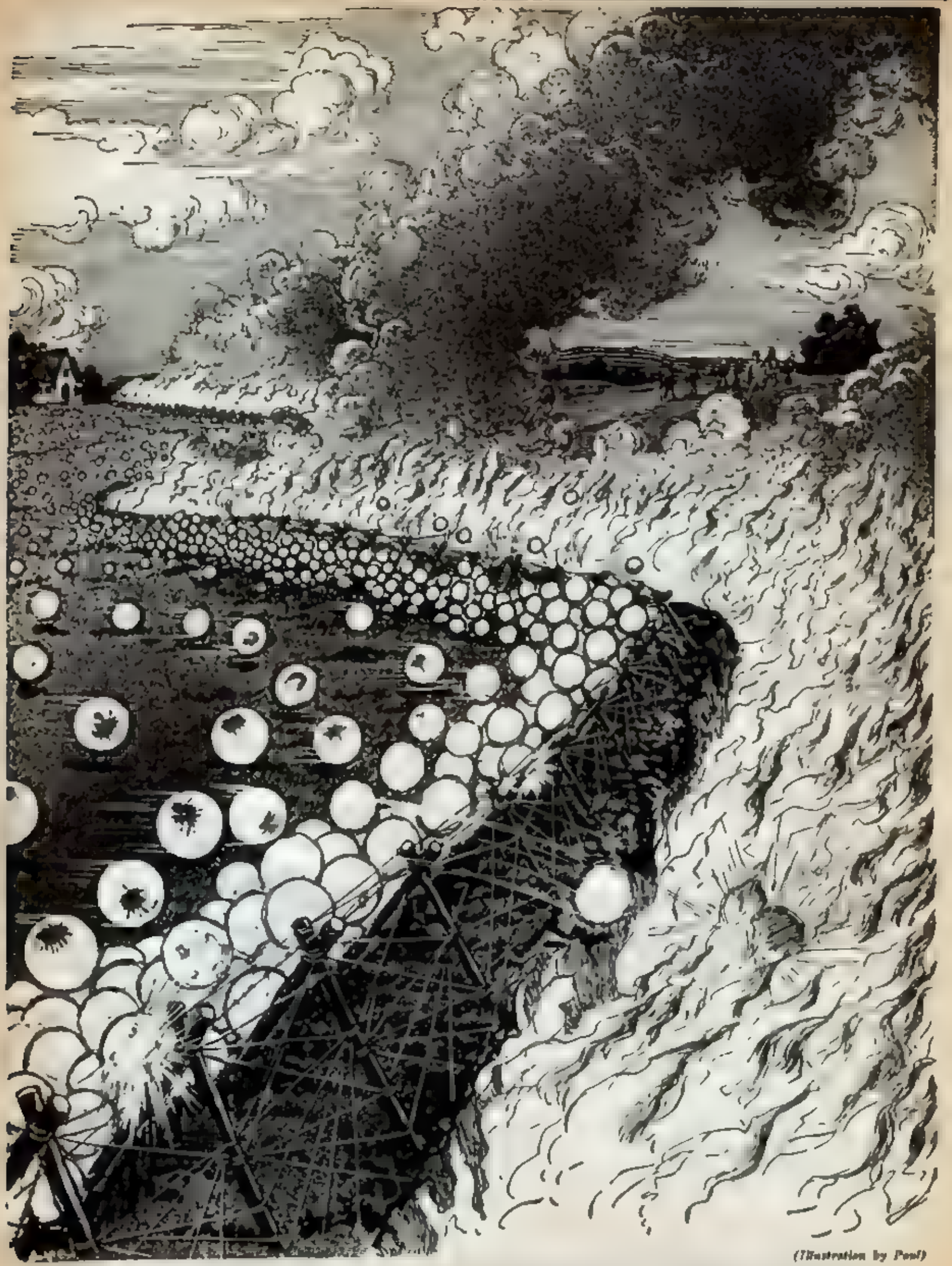
The same thought and the folk-belief that rose from it must have entered Diane's mind at the same instant, for she said in her delectable English:

"Make a wish!"

"May we be together—always," said I promptly. A kiss to seal the bargain, then another and another, and so it was agreed.

THE END

*The people of Nunei are human beings, inhabitants of earth who migrated to Callisto with the first expeditions.



(Illustration by Paul)

Driven by the fury of the gale, thousands of the spheres bounded across the country, piling up on the barb wire fence. Others jumping the fence went sizzling into the flames beyond.

SPHERES OF HELL

By JOHN BEYNON HARRIS

● Warfare is becoming increasingly a matter of scientific cleverness and power. A nation of 100,000,000 people, who had no arms other than shotguns would be at the mercy of an enemy many times smaller who was armed with the latest of killing devices. This has been amply illustrated in the prostration of the giant China before the clever little Jap.

Scientific ingenuity for warfare has been turning lately to the development of little known biological devices. In this field there is almost no limit to the fiendish contraptions to make warfare a hell on earth. This story is a case in point, with a startling and surprising climax.

Prelude

● The Prince Khordah of Ghangistan was in a bitter mood. His council, seated cross-legged upon a semicircle of cushions before him, had come to know too well that look of dissatisfaction. Of late it had seemed to dwell perpetually upon his dark features. The members of the council were aware of his words before he spoke, so often had they heard them.

"To all great nations," he observed, "might is right. Today we hear much talk of the rights of small nations —and to what does it amount? Nothing but so much dust in the wind to fill the eyes of those who would see."

He glowered upon his councillors. Each appeared occupied in interested study of the mosaic floor; the beauty of its patterns was more soothing than the expression on the Prince's face. More than one grimy forefinger scratched in its owner's beard in order to give a misleading suggestion of thought. The council was formed entirely of old men. Not that old men are always wise, but they do have the advantage of less fiery ambition. And, whether one is a Prince in Ghangistan, or a Big Shot in Chicago, too much ambition at court will prove embarrassing. The ambitions of most of the council rose little higher than a bountiful supply of food and drink and an occasional change of wives. The Prince continued to address unresponsive figures:

"What can we do? These English, and other foreigners, trifle with us. They do not so much as stir to consider our demands. We are treated like children—we, of Ghangistan, whose temples and palaces were weathered when these English hid in caves; whose ancestors reach back unbroken to the creation. We offer them war and they laugh as one laughs at the ferocity of a cornered mouse. Here we must sit, impotent, while they pour over our country the froth and ferment of their way of life in mockery of the wisdom of our sacred ancestors."

Again the Prince paused and looked questioningly about him. At the lack of response he shrugged his shoulders; some of the spirit seemed to go out of him and he threw out his hands in token of helplessness.

"— And we can do nothing. We have no big guns, no airplanes. We must sit by and watch our ancient race seduced from its Gods, and hear the voice of wisdom drowned by the sounding emptiness of materialism."

He finished dejectedly. His anger had subsided beneath fatalism and he brooded amid the respectful, if slightly bored, silence of the council. One ancient looked up and studied the Prince. He allowed a decent interval to elapse before he inquired:

"Is it permitted to speak?"

The Prince regarded him with but little lifting of his despondency.

"It is permitted to you, Haramin," he agreed.

The old man stroked his beard for some moments in placid reflection.

"It has seemed to me," he began with slow deliberateness, "that, already, we are more affected by the Westerners than we acknowledge. Even our methods of thought have become curiously colored by their mental processes. We begin now to distort our pure wisdom to fit their strange conventions."

A murmur of protest ran round the council, but none dare give full voice to his indignation, for the old man was privileged.

"Explain the full meaning," commanded the Prince.

"It is well shown by an example, My Prince. See how these Westeners wage war. First they send a declaration to warn their enemies—is this not absurd? Then they use against that enemy a series of weapons similar to his own—which is plainly ridiculous. They have, in fact, rules for war—a conceit worthy only of children or imbeciles.

"We, in our wisdom, know better. We know that wars should be won or lost; not childishly prolonged until both sides give up for very weakness and weariness. And yet"—he paused and looked around him—"and yet we sit here lamenting our lack of weapons—lamenting that we cannot meet our oppressors on their own ground. It is a foolishness to consider the standards of the West in war."

The Prince Khordah frowned. The tone of the other's speech displeased him, but he was aware that some deeper thought had prompted it. He asked coldly:

"Is it necessary, here, Haramin, to lurk like an old fox in a thicket of words?"

"I have a nephew, Prince, a man of great learning in the ways of the West, yet retaining the wisdom of his ancestors—he has a plan which should interest Your Highness."

The Prince leaned forward. At last they seemed to be getting somewhere.

"Where is this nephew, Haramin?"

"I have brought him to await Your Highness' summons."

The Prince struck a silver gong beside him. To the entering servant he said:

"The nephew of Haramin waits. Let him be brought before us."

● Ralph Waite's father beamed genially across the dinner table.

"It's good to have you home again, my boy," he said. "How long do you think you can manage?"

Ralph, a lusty, fair-haired young man, turned towards him.

"Only the weekend, I'm afraid, dad."

Mrs. Waite looked up with a little wrinkle of concern and disappointment.

"Is that all, dear? Don't you think if you wrote nicely to them they might let you stay a little longer?"

Ralph checked a rising smile.

"I don't think it would be much good writing nicely to Amalgamated Chemicals, mother," he said gravely.

"I suppose you know best, dear, but—"

Mr. Waite broke in with some little excitement.

"I've got something to show you after dinner, Ralph. Quite the most remarkable thing in all my gardening experience."

His eyes were on his plate so that he missed the look with which his wife favored him.

"But, dear," she began, "Ralph will want to—"

Ralph checked her with a glance. Of course he wanted to go and see Dorothy. His real desire was to rush off at this very moment, but he knew his father's enthusiasm for his hobby. The old man would be sadly disappointed if he could not impress his son with his latest horticultural triumph. After all, Ralph reflected, the old boy got little enough pleasure. Fancy being pushed away in a little Cornish town like this for the rest of one's life.

"What is it?" he asked.

Mr. Waite chuckled.

"You'll see, my boy. All in good time—all in good time."

The town of St. Brian lies not far from the south coast of Cornwall. A swift river, the Bod, flows through it on its way to join the English Channel at a point where it is almost the Atlantic Ocean. To the north one can see those strange, dazzling white cones which are the refuse of the clay pits, and from the higher points it is possible to trace the course of the Bod right down to the sea in the south. The houses are mostly built of grey stone, their roofs clamped down tightly upon them lest they should be whirled off by the gales which in winter sweep in from the Atlantic. In sheltered spots where they are able to take advantage of kindly climate, flowers and plants thrive, as was excellently testified by Mr. Waite's garden.

Dinner concluded, he led the way importantly across a stretch of smooth lawn to the thick hedge masking the far corner of his ground. As they reached a gap, he paused, and with something the manner of a showman, waved his son forward.

"There, my boy," he said proudly. "Just take a look at that."

Ralph, as he stepped forward to the hedge was fully prepared to be impressed, but at the sight which met him, the nicely turned phrases he had thought up for the other's gratification fled away. He stared speechlessly for a moment, then:

"What on earth's that?" he demanded.

"Ah, I thought it'd surprise you. Fine growth, what?"

"But—but what is the thing," persisted Ralph, gazing in horrified fascination.

"Well," Mr. Waite admitted doubtfully, "I don't think it's been named yet—sort of experiment they got me to try out. A new form of marrow or something of the sort, I gather. Wait a minute and I'll get the letter . . ."

He bustled back across the lawn while his son turned to regard the "fine growth" with renewed interest. Experiment or not, he decided that it was quite one of the most unwholesome looking plants he had ever seen. Almost spherical, it reminded him mostly of a pumpkin with a diameter every bit of two feet.

But it was not so much the size which was responsible for his surprise as the color. It lay before him, clammily glistening in the evening sunlight, a ball of blotchy, virulent yellow. The ground all around it was bare, and it lay on one side attacked to the earth only by a poor, twisted wisp of a stalk, as foolishly disproportionate as a pig's tail.

"Must be a good weight— a thing that size," he muttered to himself.

With some distaste he inserted his hand beneath it, and then stared at the thing in blank surprise. It weighed possibly a pound.

He was still staring at it when Mr. Waite returned with a paper fluttering in his hand.

"Here you are. That and the instructions for growing are all I know about it."

Ralph took the typewritten letter. It was headed "Slowitt & Co.," and underneath, in smaller type was added: "agents for Experimental Growers Company."

"Dear Sir," he read. "In the course of our experimental work we have succeeded in evolving a new form of vegetable. We have the greatest hopes that this extremely prolific plant will successfully adapt itself to a great range of climatic conditions. In so far as we have been able to reproduce the various conditions in our laboratories, the results leave nothing to be desired, and we now feel that the time has come to put the plant to test in the actual climates it will have to face.

"Our agents, in pursuance of our instructions to find persons likely to be interested in this development, forwarded us your name as that of a consistently successful exhibitor at a number of fruit and vegetable shows, and as one who takes an interest in the scientific side of horticulture. We have, therefore, great pleasure in asking you if you would consider assisting us in the introduction of this new form . . ."

Mysterious Growths

● Ralph read far enough to enable him to grasp essentials.

"This is all very well, dad," he remarked. "But what on earth's the good of the thing? It must be hollow—have you felt its weight?"

"Oh, that's all right. It says in the growing instructions which they sent with the seeds, that one must not be surprised at the extraordinary lightness—I gather that when it is full grown it begins to solidify or harden. Though it is a queer looking thing, I'll admit, and so were the seeds."

He fished in his pocket and found an object which he handed over.

"I kept this one out of curiosity. You see, they've enclosed it—or, rather, several of them—in a kind of capsule. The instructions were emphatic that the capsule must not be opened in any circumstances."

"Then how—?"

"You just bury the whole thing and water it very plentifully—I suppose that dissolves the capsule and let's the thing begin to grow. It certainly shows a fine turn of speed. You'd never guess how long it is since I planted this chap." He stirred the yellow ball with his toe.

Ralph did not attempt the guess. "How long?" he inquired.

"Three days," said his father with pride. "Only three days to reach that size. Of course, I'm not sure how long it will be before it's any use, but it's started very well, and—"

But Mr. Waite's intended lecture was frustrated. His wife's voice tactfully summoned him to the house.

"Don't tell anyone about this yet, my boy. I promised to keep it quiet till the thing should be full grown," he said as he hurried across the lawn.

Ralph thankfully departed on his intended visit.

Later, he was unable to remember whether it was curiosity or absence of mind which caused the one remaining seed capsule to find its way into his pocket.

* * *

Dorothy Forbes had expected Ralph earlier. She had even employed sundry of her waiting moments in inventing such reproaches as might be becoming in a lady slightly neglected. It was a pleasant mental exercise, but little more; Ralph's method of greeting did not allow of the interview being placed on a dignified basis.

Instead of venting displeasure, she smoothed her frock, shook back her fair hair, wondered for a moment why one should blush quite so warmly, and suggested that there was a swing seat in the garden.

The swing seat was such a success that it was quite half an hour before an object on the other side of the garden caugh Ralph's eye and caused him to sit up, staring. Just visible over the top of a cucumber frame was a curved section of a familiar yellow surface.

"Good Lord," he said.

"What?" asked Dorothy. Following his line of sight, she added: "Oh, that's one of Daddy's secrets—you're not supposed to see it."

"Well, now I have seen it, what about a closer view?"

"I suppose it doesn't really matter, but don't tell him you've seen it."

A few seconds sufficed to settle any lingering doubt. The plant behind the frame was identical with that in his father's garden, though possibly a few inches smaller.

"That's queer," Ralph murmured.

Dorothy nodded, though she misapplied the remark.

"I think it's horrid. I told Daddy I'm sure it's unhealthy, but he only laughed at me. Somehow I hate the thing. There's such a nasty, poisonous look about that yellow."

"He's keeping it secret?"

"Yes—he's very jealous about it. He says it will make him famous one day."

Ralph nodded. This made it queerer still. He considered for a moment. Two people, each thinking himself unique, were growing this most unprepossessing vegetable.

"What about a little walk?" he suggested.

Dorothy, with a slight surprise at the sudden change of subject, assented.

It was a wandering stroll, apparently aimless. Nevertheless, it took them close to a number of back gardens. Altogether they counted over twenty of the yellow balls.

● When Ralph returned home to London it was obvious that in a very short time there would be no more concealment of the strange growths. They were swelling to prodigious sizes with a swiftness which was rendering secrecy impossible. Already two peppery gentlemen who had considered themselves favored experimenters had discovered one another's rivalry and were indulging in wordy unpleasantness.

It could not be long before all twenty, and other, undiscovered growers would hear about it and join in the indignation. Dorothy's next letter, therefore, did not astonish him when it announced that the cats were out of the bag and the gardeners of the town of St. Brian were in full cry for one another's blood.

"When our fathers discovered that they were rivals," she wrote, "it was bad enough. But now there are more than a score of them tearing their hair and threatening legal proceedings. It isn't only in St. Brian, either. We've heard reports that hundreds of gardeners both in Cornwall and West Devon are growing the things.

"Ours is so big, too. It's over four feet in diameter now, and looks more evil than ever. I'm beginning to feel a bit afraid of it—I know that sounds silly, but it's the truth. I told Daddy the other day that there was something wicked about it and that I was sure that it was never meant to grow in England, but he only laughed and said neither were potatoes. All the same, I think the balls are beastly things. I hear that some boys cut the stalk of one near Newquay and rolled it down the cliffs so that it burst—I'd like to do the same with ours, only I hate the idea of touching the thing—ugh."

The earlier part of the letter caused Ralph some quiet smiles. He knew very well the temperament of the amateur gardener with all its jealousies and enthusiasms, and the prospect of the warfare which must now be disturbing the community could give the unprejudiced onlooker no little amusement. But he grew more serious as he recalled the sickening appearance of those growths when they were only two feet in diameter—already they had swelled to four . . .

Unreasoning as Dorothy's dislike of them might be, he found himself able to understand it and to sympathize with it. He was worried by the feeling, for he preferred reason to prejudice.

Nevertheless the matter was gradually slipping into the back of his mind until it was recalled a few days

later by a paragraph tucked away at the foot of a newspaper column.

> "Several cases are reported from Newquay, the well-known, Cornish holiday resort, of an outbreak of rash which is puzzling the local doctors. It is thought that the condition may be consequent upon prolonged or injudicious exposure of the skin while sunbathing."

For a moment he was puzzled to know when he had lately thought of Newquay, then he remembered that it was near there that the yellow ball had been pushed over the cliffs.

Dorothy's next letter informed him that a state of excitement was prevailing all over the West Country. The inhabitants, it appeared, had split into two schools of thought on the subject of the yellow balls. The growers and their friends were noisily upholding their rights to grow what they liked on their own land, while the opposition, without apparent grounds for the statement, proclaimed that the things were unhealthy.

They shared, Dorothy surmised, her revulsion against them. Some days before a minor riot of protest had taken place in Bodmin. In the course of it, three balls had been slashed open.

After he had finished the letter, Ralph turned to his newspaper and found information which brought wrinkles of speculation to his forehead.

The cases of rash at Newquay had become serious. One of the victims had died and the others were in a precarious condition—it was, according to the correspondent, impossible to state definitely that the rash was the cause of death, but he evidently had more than suspicions.

And then followed the information that the same, mysterious rash had made its appearance at Bodmin, coupled with an assurance that it could not, in the later cases, be in any way attributed to sunbathing.

Thoughtfully, Ralph withdrew his father's seed capsule from his pocket and regarded it.

"I may be a fool. It's probably just coincidence, but it's worth investigating," he told himself.

Before he sought his own office, he called in at the laboratory of a friend who worked in the bio-chemical department of Amalgamated Chemicals, Ltd.

Two days passed before he heard any result of the examination of the capsule. Then Arnold Jordan, the bio-chemist, entered his office just as he was finishing off for the day.

"You've tackled it?" asked Ralph.

Arnold nodded. "Yes, I've tackled it. And I'm not sure whether I owe you a dinner for putting me on to it, or whether you owe me a dinner for putting in the devil of a lot of work. On the whole I approve of the latter."

"Oh, all right. You look as if some good food wouldn't do you any harm. Come on."

It was not until the end of the dinner, over the coffee and cigarettes, that Arnold consented to discuss his conclusions. Then he began with an expostulation.

"I do think, old man, you might have given me a bit more warning about that beastly stuff you brought along."

"Well, I told you I had an idea it was pretty noxious," Ralph pointed out. "But, after all, the reason I brought it at all was that I didn't know much about it."

"Where did you get it?" asked Arnold curiously.

His manner shed its slight banter and a look of seriousness crept into his eyes as Ralph explained.

"Good God. You don't mean to say these things are being grown. What for?"

"Food—what else does one grow vegetables for?"

"This is a fungus."

"I thought it looked that way, but quite a lot of fungi are edible when they're cooked."

Pearl

● Arnold failed to reply for some seconds; he seemed not to have heard and was staring fixedly into space. When he turned back Ralph was startled by the expression on his face.

"Do you know anything about fungi?"

"No," replied Ralph promptly.

"Well, I'll be short about it, but I'll try to show you what this business means. First of all, there are two types of fungi. Either a fungus is a saprophyte and lives upon decaying matter, or else it is a parasite, in which case it exists upon living matter. As far as the saprophytes are concerned, well, you've eaten a good many in your time as mushrooms or cheese, or a hundred other ways, but the parasites are not so numerous—the kind which most frequently afflicts human beings is ringworm.

"Now this particular bit of evil which you kindly handed to me is neither one nor other of these forms—it is both. That is to say that it flourishes equally well on decay, or on living flesh. Do you see what I'm getting at?"

Ralph began to see.

"This thing," Arnold continued, "is not only a parasite, but a more vicious parasite than any known. All these growths you have told me of must be scotched—utterly wiped out and obliterated before they can become ripe. Once allowed to burst and scatter their spores—" He spread his hands expressively.

Ralph regarded him nervously.

"You're sure of this?"

Arnold nodded.

"Of the danger, I am certain. About the plant itself I'm very puzzled. Obviously the spores were enclosed in a soluble capsule so that they might be planted and brought to fruit in safety. If your information is correct, the whole thing seems to be deliberate, and on a large scale. It is not merely a case of scattering a few spores to grow haphazard, but immense trouble has been taken to induce people to cultivate the fungi so that millions of spores will be spread." He paused and added:

"It's up to us to try to stop this thing, old man. Somebody must, or God help thousands of miserable people."

Ralph was silent. He remembered the mysterious rash at Newquay, and the similar outbreak at Bodmin. He recalled, too, the sight of that slimy, yellow ball in his father's garden and his face was pale as he looked at the other.

"We're too late," he said. "It's begun."

* * * *

"Stuff," said Major Forbes, with some violence. "Stuff and nonsense. You ought to have known better, young man, than to come to me with an old wife's tale like that."

Ralph gave up his attempt to convince the old man. After Arnold's warning of the previous evening, he had caught the earliest possible train for the West Country

and travelled all night. There had not been any time to lose. So far as he knew, the enormous puff-balls might burst of their own accord at any hour—quite apart from the danger of one of them receiving an accidental puncture and spreading its spores about the neighborhood.

He had arrived tired and anxious to be greeted by both his own, and Dorothy's father, with complete disbelief. In vain he put the cases of rash forward as evidence and quoted Arnold's warning. It was useless. Each, at the back of his mind, seemed determined that this was some deep ruse by rival growers to get him out of the way—and, even if the thing was a fungus, what man worth his salt was going to be scared by a mere puff-ball, however big?

"No," Major Forbes repeated firmly. "You say that your mother and my daughter are willing to leave—of course they are. Women are always wanting to run up to London for some fal-lal or other. Take 'em along with you, the change'll do 'em good, but don't come bothering me."

And there was a similar interview with his own father. Mrs. Waite attempted to smooth over her husband's irritation.

"Now, don't worry your father any more, dear. You must see that he doesn't want to come. I should like to go to London for a week or so, but don't bother him—I should have to go soon, in any case, to do a little shopping."

"But you don't understand, mother. This is really serious—it's dangerous. These things he is growing are rank poison."

Mrs. Waite looked a little distressed.

"Do you really think so, dear? I mean, it seems so unlikely—and the people who sent them don't seem to think so. They definitely said they were vegetables."

"Never mind what they said. Take it from me—or, rather, from Arnold who is an expert—that these things are deadly and must be destroyed."

"Eh? What's that?" Mr. Waite chimed in. "Destroyed? I'd like to see anyone attempt to destroy my specimen. I'd show him what's what. There's still a law in the land."

"You'll promise me, won't you, John, not to eat any of it while I am away?" Mrs. Waite spoke as though her presence should nullify the plant's poisonous quality. Her husband ungraciously conceded the point.

"All right," he said gruffly. "I'll promise you that much—though I repeat that I think the whole thing is a scare."

"Well, if you won't come, I can't make you," said Ralph, "but I do beg of you—"

Again he went over the details of Arnold's warning only to succeed in thinning his father's temper and his own. At last he turned back to Mrs. Waite.

"This is a waste of time. You'd better pack your things and get ready, mother."

"You mean now, dear?"

"Yes. At once."

"Oh, but I couldn't possibly be ready before tomorrow. There are such a lot of things which just have to be finished off."

Ralph went around again to see Dorothy.

"We'll have to wait until tomorrow," he told her. "I can't make them believe there's any danger in delay."

"Well, one day won't make much difference," she suggested.

"It might—I want to get you both out of here as soon as possible. Any moment it may be too late."

"We'll be right away this time tomorrow. Now let's talk about something else."

"I can't think of anything else: I've heard Arnold on the subject, and you haven't. Let's go out and have a look at the brutes."

■ "Hullo," said Arnold, entering Ralph's office. "Where the devil have you been for the last two days?"

"Down in Cornwall; trying to make my people clear out."

"Did you?"

"Got Dorothy and my mother up here. Neither of the fathers would shift—stubborn old fools. What have you been up to?"

Arnold disregarded the question.

"You've done all you could?"

"Of course I have—short of kidnaping the old blighters."

Arnold looked grave.

"I'm afraid the news is rather serious," he began. "The morning after our chat I went round to see a fellow I know at the Ministry of Health and they welcomed me there with open arms. This thing is a good many times bigger than we thought it was. The newspapers have been minimizing—didn't want to ruin the holiday traffic, or some rot like that. They told me there that there have been hundreds of cases of the rash and several dozen deaths. Not only that, but soon after the dead have been buried those yellow puff-balls start growing from the graves.

"Their experts were as sure as I was that this form of fungus has never been heard of before, and most of us are pretty certain that somebody has been up to some rather ugly cross-breeding, with malice aforethought. They issued orders yesterday that no more of the things were to be planted, but that was useless; already round the centers where the things have burst the place is littered with the balls."

"Growing already?"

"Thousands of them around Newquay and Bodmin and several other places. And nobody dare touch them."

"But aren't they doing anything—destroying them?"

"How?"

"Can't they—can't they spray them with acids, or something? Do you realise that the first lot hasn't reached its natural bursting point yet? All this second crop is the result of accidental breakage. God knows what will happen if they are allowed to burst."

"Nobody seems to know how to tackle the situation. But they're not lying down; they see the danger all right and they're going after it day and night. You can see yourself that the problem is how to destroy the balls without liberating the spores."

"There must be some way—"

"Oh, they'll find a way, but it's got to be drastic and well organized. The thing they're most anxious about at present is that there shall be no panic. You know what people are like when they lose their heads. If they go wild and start smashing the things wholesale, there'll be hell to pay. You can take it from me that the de-

partments concerned are already making things hum behind the scenes."

"Meanwhile, the first crop of balls must be pretty nearly ripe . . ."

* * *

Ralph searched the lounge of the hotel where his mother and Dorothy were staying. He eventually found Mrs. Waite occupying a comfortable armchair in a secluded corner. He greeted her and seated himself beside her.

"Where's Dorothy," he asked a few minutes later. "Getting ready?"

"Ready?" repeated Mrs. Waite inquiringly.

"We arranged to go out and dance this evening."

"Oh, dear me, of course. Then you didn't hear from her—she said she would telephone."

"She didn't. What was it about?"

"Well, she won't be able to go out tonight. You see, she's gone down to Cornwall."

"She's what?" shouted Ralph in a voice which echoed across the lounge.

"Yes, dear, she said she felt she must go to Cornwall," Mrs. Waite repeated placidly.

"But, why didn't you stop her? Surely you realize the danger—good God, she may have caught the rash—she may die of it."

Mrs. Waite looked a little shocked.

"Well dear, I did tell her that I didn't think you would like it. But she seemed so anxious about her father—such a nice trait in a young girl, I always think—that I didn't feel that it was right to interfere too strongly."

Ralph made no reply. His mother glancing at him saw that his face was drawn into tight creases. There was an expression in his eyes which hurt her. For the first time she began to appreciate that there was real fear behind his actions and talk of the last few days. Futilely she started to talk when she should have kept silent.

"Of course this may not be so very dangerous after all—I expect it's just another of these scares. Things will be all right in the end and we shall all have a good laugh at our fears. Don't you worry, dear, I expect—Good gracious."

Ralph was roused out of his thoughts to see what had caused her exclamation of surprise. He looked up to find himself facing his father and Major Forbes. An hour ago he would have been pleased to see them and cheered by the thought that the whole party was now reunited; but now, his greeting was cold.

Major Forbes looked around him.

"And where is Dorothy?" he asked.

Ralph answered him bitterly.

"She's gone to save you," he said.

Wind and Fire

"Yes, my boy," said Mr. Waite, "we certainly owe our escape to you. You seemed so positive about the danger that I did a bit of investigating; poked about a bit among the local officials. It was old Inspector Roberts who gave me the tip—he's always considered himself in my debt over that matter of his boy. 'Mr. Waite,' he said, 'I ought not to tell you, in fact I'm breaking orders by doing so, but if you take my advice you'll get out of the district just as soon as you can.'"

"Yes, it was a straight tip, by Gad," agreed the Major. "I managed to hear a few things about the country around—pretty bad. Some fool started a panic in Launceston. Half the town was out with sticks and stones and knives, smashing all the yellow balls they could find. A man told me the ground was white with spores as if there had been a snowstorm. Some of the growers tried to interfere and there was something like a battle. Pretty much the same thing seems to have happened in Tavistock and other places in West Devon."

Ralph looked up.

"Spores or riots," he said, "I'm going down by the midnight train to get Dorothy out of that—what's the time now?"

The Major snorted.

"Don't be a fool, young man. The girl's all right. She'll be back any moment now, I'll warrant. They're not allowing anyone to enter the area now, so she'll *have* to come back. Your father and I came out on one of the last trains allowed through."

"What's the time?" Ralph demanded again.

"Twenty to ten," said the Major, "and I repeat that you are wasting your time if you go down there."

"The news," Mr. Waite said suddenly. "There's sure to be something about all this." He called a waiter and asked for the radio to be switched on. A few moments later they were listening to the calm, familiar voice of the London announcer.

The general weather report was unencouraging and the voice went on to add:

"Gale warning. The Meteorological Office issued the following warning to shipping at twenty hours, Greenwich Mean Time. Strong, westerly winds rising to gale force may be expected on all the Irish coast, English coast west of a line from Southampton to Newcastle, and English Channel."

Ralph glanced at his father who caught his eye, but sent a warning glance in the direction of his mother. Both of them grasped the implication. Thousands of light, yellow balls attached merely by skimpy stalks—and a gale rising.

The announcer began on the news:

"We are asked by the Ministry of Transport to broadcast the following. Suspension of service. All train services between Exeter and points west thereof, have been temporarily suspended. Further details will be announced tomorrow."

The Major looked at Ralph triumphantly.

"I told you so. They're isolating the whole district. There's no point in your going down. We shall have Dorothy back here in no time."

But Ralph was unconvinced. Dorothy had set out to get to her home and he had a horrid fear that she would do so if it were humanly possible. The Major did not seem to know his own daughter's tenacity of purpose. He stood up with determination.

"I'm going down there *now*. There are still cars, even if they have stopped the trains."

* * * *

Thump . . . thump . . . thump . . . went Ralph's mallet. It was three days since he had left London, and now he was engaged in driving stakes into the hard soil of Dartmoor. A message earlier in the day had informed him that no news had been received of Dorothy. There could be no doubt that she had been trapped in the iso-

lated area and was now—if she had succeeded in reaching St. Brian—still forty or fifty miles to the west of him. He reflected angrily on the events which had landed him at his present occupation.

He had rushed from the hotel in search of Arnold. Before midnight he had borrowed the other's car and was travelling down Piccadilly in company with the taxis of homeward bound theatergoers. The traffic grew faster and sparser as he passed through sprawling suburbs. He looked forward to showing a good turn of speed on the great west road. But when he reached it the volume of traffic had undeniably increased once more: Long lines of trucks, not too punctilious about keeping to the side of the road, stretched before him.

A constant flow of private cars against him, unprecedented for the time of night, made it a difficult business to overtake the trucks. Ralph cursed the obstruction of the lumbering line and noticed for the first time that they were not commercial vans, but were painted khaki or grey, with army markings on their sides. He swore again. A piece of foul luck to get mixed up in army manoeuvers, but perhaps they would drop off at Aldershot. They did not. They held on the road to the west and, to his exasperation, were augmented by hundreds more.

"Anybody would think," he muttered to himself, "that there was a war on. The whole blooming army seems to be going my way."

● To add to his troubles, the wind was rising, bringing with it sharp flurries of rain. Instead of making a dash through the night as he had intended, his speed was reduced to a crawl. Only infrequently did the traffic against him allow him to cut past a few of the lumbering shapes ahead. It was full daylight long before he reached Exeter, and he passed through the narrow streets of the old city still escorted by the army wagons.

Two miles beyond, the road was blocked by a barricade. Sentries with fixed bayonets were assisting the police to turn back all private cars. The representatives of both forces were equally unmoved by his offers of money or his loss of temper.

"It's no good makin' a fuss, young feller," advised a police sergeant. "If I'd been taking money today, I could have made my fortune—and retired on it. You get back 'ome now."

There had been nothing for it but to turn his car round and drive sullenly back to Exeter. There he munched a necessary, though unappreciated meal while he decided on the next move.

"No private cars along 'ere," the policeman had said. But the trucks were going through—those same damned trucks which had hindered him all night. Hundreds of them. They were passed without question, and moreover, without a search. It ought to be possible to jump one and stow away . . .

After a number of uncomfortable miles the truck stopped. The tailboard was lowered.

" 'Ere, you, come along out of it," demanded a voice. A hand fastened firmly on to Ralph's collar and dragged him painfully from his hiding place amid stakes and rolls of barbed wire. He landed amongst a group of men under the command of a sergeant. The latter came close to him, his pointed mustaches adding ferocity to his expression as he shouted:

"What the—blazes do you think you were doing in that—lorry? You come along 'ere with me."

The officer to whom he was taken had heard him out and then regarded him seriously.

"I like your spirit," he said, "but just listen to me a minute. You seem to know something of the situation, but you're tackling it the wrong way. It's no good your going over there." He waved his hand to the west. "You couldn't do a damned thing if you got through, except make yourself another victim. Your girl doesn't want you to die. You know, if you give it a moment's thought, that she'd be far prouder of you for helping to fight this stuff and beat it; for helping to blot the damned growths out and make thousands of people safe."

"But she's—"

"And don't you realize that from the body of every man who dies out there, more of the yellow balls grow? If you go out there, you'll not only be helpless, but you'll be giving your body to feed them. No, my lad, your job is to help us to fight against the menace. This is a state of emergency and we need all the help we can get. What about it?"

Ralph at length consented with not too good a grace.

He knew the officer was right. It was his job to fight, not to throw away his life, but . . . He did not quite trust himself. Sometime the urge to find Dorothy might prove too strong for him . . .

His working partner's voice broke in on his thoughts.

"What d'yer say to a cigarette, mate?"

Ralph delivered a final blow to the stake they were fixing, and agreed.

To right and left of them across the moorland hills stretched the long line of posts. Here and there parties of men who had completed their sections were already beginning to weave an impenetrable net of barbed wire around the stakes. Behind, on the roadway, was a never ending line of trucks loaded with more wire and yet more stakes, while closer, between themselves and the road, a sweating army of men labored to dig a broad trench.

Ralph was amazed at the organization which in two or three days had enabled the authorities to be well on the way to barricading off a whole corner of the country. At the same time he was puzzled; the purpose of the wire was obvious, but he failed to understand the reason for the broad, shallow trench. Nor was his partner, Bill 'Awkins, as he called himself, able to explain its use. But he was ready to concede that the authorities knew what they were about, and were not wasting any time.

"Yus," he remarked, "they're quick on the job, they are. Why, a few nights ago there was a gale warning—p'raps you 'eard it?"

Ralph nodded.

"Well, the minute they knew that, they changed their plans like a flash. This 'ere line was to 'ave been miles further forward—they'd even begun to get the supplies up there when the order for retreat came. You see, the wind in these parts is pretty near always from the west; that's what's got 'em scared—the idea of this stuff being swept right across the country. If it's true what they say about some feller a-startin' it on purpose, then 'e picked a likely place.

" 'Owever, the wind didn't come to much, after all.

Most of them yeller balls just rolled a bit and then got stuck in the valleys and 'ollows and such like—blamed lucky it was, too."

"Then all this," said Ralph, indicating the defenses; "is in case a real storm comes along?"

"That'll be about the idea," Bill agreed.

Into the Area

● They smoked for a while in silence. From time to time a great plane would roar across the moor carrying food supplies to be dropped to the isolated, and, once, a large caterpillar tractor came swaying and plunging past them, bound for the west. Bill grinned as he caught sight of the men aboard it and the instruments they held.

"What are they?" asked Ralph. "Looks like a squad of divers going on duty."

"Asbestos suits and masks," the other explained. "And they're carrying flame-throwers. Those'll give the blinkin' things a bit of a toasting."

Some six nights later Ralph sat with a group in the stable which was their billet. One man was holding forth pessimistically.

"I suppose they're doing a bit of good with all this flame throwing and whatnot, but it ain't getting 'em far. It's the plant underneath that they want to get at, not just the yellow balls. They're only the fruit—you don't kill an apple tree by knocking off the apples. Fungi have a sort of web of stuff spreading all through the ground around them; that's the life of the things, that's what they—"

There came a thunderous knocking on the door and a stentorian call to turn out.

"Wind's rising," said the sergeant. "You all know your jobs. Get to 'em, and look slippy."

The wind swept in from the Atlantic at gale force. The first few puffs stirred the yellow balls and rolled them a little at the ends of their skimpy stalks. Later followed a gust which twisted them so that the stalks snapped and they were free to roll where the wind urged. As the pressure grew to a steady blast, it swept up a mass of the light balls and carried them bounding across the countryside, an army of vegetable invaders launching their attack to capture the land and destroy human beings. The wind of a week before had moved only the balls in the most exposed positions, but this time, none but the youngest and least developed had the strength in their stalks to resist the air which tore at them. Every now and then a splashing flurry of white would spring from the hurtling, bouncing horde as the tough, yellow skin of one was ripped by some sharp spike or the corner of a roof. Then the great spores themselves were caught up by the wind and carried on faster as an advance guard of the yellow army.

The gale seemed to display a diabolical zest for this new game. It increased its force to drive the balls yet more furiously. Hedges, ditches and trees failed to check the headlong charge. Even rivers proved no obstacle; with the wind behind, the balls sailed across in their thousands, bobbing and jerking on the rough surface. They were thrust relentlessly down the narrow streets of the little towns, jostling and jamming against the corners of the buildings until the houses were hidden in a cloud of swirling spores and the surviving balls tore loose to follow bowling in the wake of their fellows.

This time, the wind did not desert them. Many lodged in sheltered hollows, but they served merely to fill them up and make a path over which the rest could travel. The wave of invaders climbed slopes and swept up and out on to the moor, a windswept bleakness where, unobstructed, they gathered speed to charge yet more swiftly upon the defenders.

There was a line of fire across the country. Ralph had soon learned the purpose of the broad trench. Filled now with blazing oil and wood, it formed a rampart of flame.

"Here they come," cried the lookout, clinging to a swaying perch high above.

Soon all could see the few whirling balls which seemed to lead the way, and the turgid mass of yellow pressing close behind the outrunners.

They held their breaths.

The first ball hurled themselves to destruction upon a *cheval-de-frise*, a hedge of bristling spikes which slit and tore their skins and set free the spores to go scudding on into the flames. But they came too thick and fast. In many places they piled up solid against the sharp fence forming ramps for those behind to come racing over the top and fall among the meshes of barbed wire. Every now and then a ball seemed to leap as though it possessed a motive power within itself. Missing the wire, it would bowl across a no-man's land to a final explosion in the flaming ditch, its burning spores shooting aloft like the discharge of a monstrous firework.

"My God," muttered the man next to Ralph, "if this wind doesn't drop soon, we'll be done. Look at that."

"That" was one of several balls which, miraculously escaping all traps prepared for it, had leaped past them into the darkness behind.

"They'll catch it in the nets back there and burn it when the wind drops," Ralph replied with a confidence which he scarcely felt. "The thing that worries me is that the fires may die down—we can't get near to fuel them from the lee side here."

But, as luck had it, the fires outlasted the wind.

● "Men," began the officer in charge, the next morning, "it was a pretty near thing last night, and we have to thank Providence that we successfully withstood it. But we can't afford to waste time. We've got to get to work at once. There may be another wind any time, and that mass of stuff choking the spikes must be cleared before it comes. I want every man who has experience of flame-throwers to step forward."

Ralph, in company with many others, stepped out. He had no knowledge of flame-throwers, but it was the only way he could acquire an asbestos suit and get out into the danger area. For more than a week he had stifled his anxiety to know Dorothy's fate, and now he could bear it no longer.

As he struggled into the heavy covering which would not only insulate him from fire, but also withstand the deadly spores, he turned over his plan. Perhaps such a simple getaway was unworthy of the name of a plan. Roughly, it consisted in placing himself among the foremost of those who would be clearing the ground with their fire sprays, and working gradually ahead until the thickly scattered balls should give him concealment from the rest of the party. All he had to do then was to walk off to the west.

The only risk, once he was away, was that one of the

food carrying planes might spot him. But the chance was remote, and it was unlikely that a lone straggler would be considered worthy of investigation.

The scheme worked as he had expected. No hue and cry was raised after him as he wormed away. In a very little while he stood alone at the threshold of the stricken district.

As far as he could see in three directions the land was dotted with the yellow balls, poised ominously where the wind had left them, and seeming to wait for the next gale to pick them up and send them swirling onward to more victims. Surrounded by the evilly glittering skins, he shuddered for a moment before his determination reasserted itself. He drew a deep breath through his mask, threw back his head and strode on—a lone, grey figure, the only moving object in a scene of desolation.

In the first village he found a motorcycle with its tank half full, and for six miles it shattered the silence of the moor as he drove it, zigzagging to avoid the growths which littered the road. Then came a sharp valley so choked with balls that he must leave the motorcycle, throw away the heavy flame-thrower, and climb across the balls themselves.

On several occasions one burst beneath his weight and he dropped some feet in a flurry of spores which threatened to choke his breathing mask until he could wipe them away. Then, laboriously, he must pick himself up and struggle on while streams of sweat soaked his clothing beneath the clumsy suit. Once he almost turned back to pick up the flame-thrower with the idea of burning his way through the mass, but he remembered that its cylinder was already half discharged. Desperately he battled until at last his feet found the bracken and heather of the further hillside.

Afterwards, he could recall little of that journey. He became uncertain even of the number of days which passed as he tramped on and scrambled through one choked valley after another. Only odd incidents startled him now and then out of a stupid weariness: the little town on the moor where men and women lay dead in the streets while the fungus preyed on them, and the windows of the houses were full of yellow balls which mercifully hid the rooms—the voice of a madman chanting hymns in a barricaded hut; hymns which turned to cursing blasphemies as he heard Ralph's step outside—the things which had been men, and which he was forced to move when thirst tortured him to find a drink in a dead inn.

But somehow, with dulled senses, he strove on through the nightmare while with every mile he covered, the fear of what he might find at his goal, increased.

He felt that he was almost home when he crossed the river Tamar which separates Devon from Cornwall. The bridge was choked with the fungus. Upstream was wedged a solid mass of yellow, but, below it, the river raced, bearing an occasional, serenely floating ball which would later meet its fate before the fire boats in Plymouth Sound.

At last, St. Brian. The balls were fewer here. The wind had carried most of them away. His own home. Further on, Dorothy's home—blank, locked. Deserted . . . ? He broke a window to enter and wander about the empty rooms. No trace of fungus inside the house. No trace, either, of Dorothy. Perhaps she was upstairs. He was weak and hungry. Every step of the climb was an effort. At the door of her room he hesitated—would she be there?—the yellow balls growing from her, feeding upon her still body?

He opened the door; anything was better now than uncertainty. No one on the bed—no one in the room. He began to laugh hysterically. Dorothy had fooled the balls. They hadn't got her. She was alive, he was sure now—alive in spite of those damned balls. He fell on the bed, half-laughing, half-crying.

Suddenly he stopped. A sound outside. Voices? Painfully he crawled across to look out of the window. A group of people was coming up the road. People he knew. They were wearing ordinary clothes and among them was Dorothy—Dorothy. He tore off his mask and tried to shout to them. Funny, his voice wouldn't work, somehow. Never mind. Dorothy had fooled the yellow balls. That was damned funny. He was laughing again as he sank to the floor. . . .

* * *

"Yes dear, I'm real," said Dorothy, at the bedside.

"But—but how—?"

"When I got here I found that Daddy had gone. The only thing was for me to go, too. Several of us went down the river in a boat and rowed along nearly to Land's End. Right in the toe of Cornwall we were beyond the balls, and to windward of them. Then, when it was safe—"

"Safe?"

"Yes, dear. It's safe now. The balls are just like an ordinary fungus now—they don't attack living things any more. Then we came home and found you here."

"But—"

"Not now. You mustn't talk any more dear. You've been very ill, you know."

Ralph acquiesced. He went to sleep peacefully, her hand in his and a smile on his face.

Envoi

The Prince Khordah of Ghangistan regarded the nephew of Haramin, bent low before him.

"Your plan has failed," he said.

The nephew of Haramin nodded dumbly.

"But," continued the Prince, "it has cost that accursed country more than did ever our wars—and we have lost nothing. Tell me, why did it fail?"

"Your Highness, the stock did not breed true. After two or so generations it was no longer a parasite, but had reverted to a common, saprophytic fungus."

"Which, however, it will take them many years to suppress?"

"Many years," the other repeated hopefully.

The Prince Khordah spent a few moments in contemplation.

"We are not displeased," he said, at length. "Doubtless the first arrow did not kill a lion. There are other means, nephew of Haramin?"

The bent figure heaved a sigh of relief.

"There are other means," he agreed.

THE END

(Illustration by Paul)

He pressed the release and sent the power leaping out to burn its way through the floor. An opening showed in the brittle rock beneath them. But below was more rock, solid and unyielding.

THE MOON TRAGEDY

By FRANK K. KELLY

Prologue

● In the middle of Tycho Crater there is a light. This light is a monument to the eight thousand men who died there, and to the ten thousand who put a roof over the craters of the moon, and worked a miracle in a wilderness of airless rock. This is the monument built to the tradition of the Service Corps, and to a Number and a Name.

The light comes up out of the hard bleak lava which has been left bare for a hundred feet around it, a tall column of white atomic flame fed by the rock, rising and falling without change, pulsing like the heart-beat of a world. From a long distance out in space the ether ships can see it, and it has become a beacon to the moon fliers that pass daily overhead on their way to the airlocks on the Tycho roof. Silent it is, and never failing: one single tall column of ivory flame.

It rises up through a narrow fissure in the crater floor, and at its base it is encircled by a low wall of smooth stellite, to mark the place where the bodies of two men in ether suits had been found. A little way distant is the split wreckage of their ship, unchanged since the day it fell, since all the fissure except the opening for the flame is sealed, and holds no air.

Two identity discs were found also on the bodies, and it was seen that one of these two men had a name, Leaf Feld, and the other wore only a number on his collar, N 72, but in death there was no difference between the Number and the Name.

Yet in one thing at least, Leaf Feld was wrong. He had said they would not find him. His story is now known.

● Old Narwitz shuffled in and clicked the door shut behind him. His back was bent, and age had clawed its marks in his face. He had two blue eyes like two matched diamonds of the first water: they had the same bright stony glimmer.

"The Shock Troops return tonight," Narwitz said. In his hand he held a copy of the Lunar Proclamation, and it seared his old flesh as if it had been on fire. He wanted to say to Leaf Feld, "In a little time the Service Corps will leave for the moon, and you are not going. You have been born in the Tradition, and you are not going. You are hiding behind your wound, and your wound is already healed . . . ."

Still he did not say these things, because there remained yet a little respect for the other man in the room. Leaf Feld had been wounded in the battle at Victoria Falls, between the legions of the black Dahomey king, Tagonza, and the skeleton force of Service Guards sent to throw a cordon of steel about the turbines which had been built to harness the cataract. And a man who had taken his wound in the Service was sacred to Tradition.

Narwitz knew well enough what had happened. Feld had gotten a spear through his shoulder at Victoria, and was sent home with the next hospital ship leaving for the Central Discharging Base at New York, now simply called the City. He convalesced rapidly, his wound completely healed under the ministrations of the Medical Community within three weeks, and he could have been returned the next month to Victoria. But some quirk in the machinery at the Social Building had changed the course of his fate, and he had not gone. He was transferred to the Scientific Research Division, under Narwitz, because Narwitz was an old soldier and fierce in the faith.

But it had turned out wrong, because Feld had seemed to discover what it was he had always wanted to do, and why he had hated with a bitter and unswerving hate, the work he had been assigned with the African Corps. He was a precisionist. He fell in love with his science, with his exact weighing and measuring and dividing, in a world where there was no more love because there was no more sex.

He had been born out of a machine that turned out just so many like him every hour, day in and day out. He knew that it was all regulated by that little group of men in the Social Tower; so many members of Class One, rulers, leaders, educators, scientists: directors of the machines that maintained life; so many members of Class Two, white collars, middle-minded men: the workers at the machines; so many members of Class Three, serfs, inhabitants of the Low Levels: fodder for

● The task of making the moon habitable, which runs through many of our stories, is a prodigious one. One must shrink away from its contemplation, if one pays proper attention to the difficulties involved, and the forbidding nature of lunar conditions.

Take, for example, the airlessness of the moon, and its awful extremes of temperature. These alone, should make interplanetary explorers hesitate. However, knowing the nature of man, as we do, we are inclined to think that when interplanetary exploration becomes possible, that the attempt to plant a colony on the moon will be attempted.

This story is a realistic portrayal of such an attempt. Mr. Kelly is to be commended for his frank description of the difficulties; perhaps even the absurdity of making the attempt. Yet, in a thrilling story, he shows clearly the driving force that animates man to penetrate all parts of the solar system, despite all obstacles.

the machines. He knew all that, but he did not believe it, because he was by nature a rebel. Something had gone wrong when he had been made, some mistake had happened when he was decanted from the incubating cell, and he was not the same as other men. . . . .

Narwitz went over and laid the thin metal-fabric scroll on the laboratory table, against Feld's elbow. He unclipped it, spread it out. For a minute he forgot that he was waiting for the other's reaction; he read it a second time himself, in fascination:

A PROCLAMATION

By the Social Council. The main body of the Shock Troops returns tonight, Landing Stage Twelve. The first steps in the civilization of Africa have been completed. There is no more to be done by the Service Corps. Therefore, by vote of the Council, it has been decided in view of the expanding population, to authorize habitation of the craters of the moon. To that end a Lunar Expeditionary Force of ten thousand men will be sent across within the month. Tycho Crater is chosen as the first to be roofed and sealed; air and soil will be created from the Lunar rock. Sections of the Service Group A-10 to G-34 will be given opportunity to volunteer in extraordinary service. Stamped and sealed, April 12, 2274. Signature: Wald, Secretary to the Social Council.

Narwitz lifted his eyes. For an instant he had been oblivious to the presence of the other man. Now he saw that Feld had not even noted the existence of the scroll lying on the table. He made an angry gesture, and turned away. He got his body over to one of the big windows in the south wall of the great room; he could move quickly when he had to, in a shuffling crabwise gait. He stood opening and closing his fingers.

He stared down across the huge sweep of mile-high masonry that cliffed away beneath the wide window; they were very far up here, almost under the shadow of the Social Tower, very near to the blank open face of the landing stage Twelve. Outside it was already night, and the Benson cold globes had taken up the burden dropped by the sun. In an hour or two the first of the troop ships would be in sight, swinging up from the southern half of the world; he could see animated dots moving in black outline across the smooth swept space that was being kept open for the first ship.

Around the edge of the landing stage, close even to the low wall forming the outer boundaries, a crowd had begun to gather: it was distinguishable from where he stood as a great black mass, shifting now and then to one side or the other. He had seen a swarm of bees released from a hive once, all clinging together, and it had been like that.

He swung around. The blue diamonds in his face received and diffracted the light, and split it up and shot it back in at an angle; Leaf Feld got the full force of that blue glittering against the back of his head. Narwitz raised his voice.

"Did you hear me? . . . . Leaf!"

Still Feld did not look up, or even give any sign that he knew the old man was there.

● Feld was seated, comfortably, in a big swaybacked chair that he had pulled up to the low laboratory table, and he was watching what was going on within the narrow glass confines of two test tubes. He wore a pair of the new Gigerson micro-spectacles, long tubular lenses balanced between the thin strands of beryllium wire that went back over his ears; he could just sit there, and be comfortable, and yet be able to pick out every last detail of the micro-entities he was observing.

It was better than the old cumbersome compound microscopes, but there could have been some improvements. For one thing, the glass was not ground one hundred per cent fine, and there was a little distortion of vision at the low angles. And the whole gear was entirely too heavy, constructed as it was of the denser metals; Feld had in mind a modified arrangement which might some day be built, which would do away with this difficulty. But even now it was better than the old methods, and much more sanitary.

He was not obliged to pick up the preserved slides he wished to observe with his bare hands, and place them under the double clamps on each side that might or might not hold them unswervingly in the exact position wanted; if he desired another slide, or another tube, he simply picked out any particular one he liked, depressed a clip-spring, and promptly it slid down through a narrow chute into the rack. The tops of the tubes, of course, were sealed, and he had to remove them through the use of long hand-pincers, but it was small trouble compared to the ancient days.

He was repeating the Erstwein-Stenwald experiment in reproduction of artificial cells, first completed in 2180; he noticed that he had a particularly good culture in the tube on the right, and it was beginning to respond voraciously to the drop feeding he had given it the past six days. In a little while he would have to replace the small tube with another, the culture was getting so large and growing with such hungry speed.

Narwitz said again, his sharp voice sidling in between the walls of the other man's abstraction: "I wish you'd pay some attention when I'm talking to you, Leaf. Did you hear what I said?"

With a gesture of penitence, Feld removed the headgear necessary to the use of the Gigerson glasses, and glanced up.

"No, I did not," he said clearly, accenting every word with a separate distinct quality. "I am sorry. What was it?"

His voice was big like himself, booming and resounding back and forth through every corner of the great room; yet there was a hollowness in it, the same as his temples were hollowed with shadow and his whole square face seemed a light shell set above his great body, so loose that it might blow away any instant. Narwitz thought bitterly, he was all crust and no filling.

"The Storm Troops are returning tonight," Narwitz said; and added: "Have you read the Lunar Proclamation? . . . . Had you forgotten?"

Feld had two thoughts, both coming so fast that the second was superimposed on the impression left by the first; he caught the petulance in the old man's voice, and thought Narwitz was getting old very fast: then

he heard what Narwitz was saying, and it was as if a heat shell had spun across his brain, and stopped exactly at the center and there burst, soundlessly, sending great streams of fire rivuleting down through every cell in his body. He looked at the open scroll, and read the words it held, and he felt a huge aching pain. The weight of something he had put in the single flapped pocket of his tunic rubbed against his side, and he remembered the bronze cylinder that had come before Narwitz had walked in; then he knew that it was all over. He said, quite slowly:

"Forget? No, I didn't forget. I was just so deep in what I was doing here that I never noticed the time. It must be very close to midnight now, isn't it?"

He realized that Narwitz was observing him; and Narwitz still had keen eyes even in his old age. "They will be here in about an hour."

Feld made a small choked sound in his throat. "Yes. It is nearly eleven. Well, I suppose I'll have time to finish this before I go down. . . . . After all, it doesn't mean anything to me, does it? I've served my time. I've taken a wound."

Narwitz took a quick hopping step forward and put his hand out; the old fingers closed on Feld's silk tunic, ripped a gash in the padding at the right shoulder: hard brown flesh showed, unscarred.

"Your wound is healed," Narwitz said, quietly. . . . . "I thought they called it an honor to belong to the Service Corps. It was in my time."

Feld bit his lip, and a red wave climbed his dark face. "It is so now. You misunderstood me, old man. And I'm going down to see them come in, certainly. There'll be a few left that were there in my service, I suppose; though not many. There are two men I'd like to find again. One of them has a name and the other wears a number."

"Jan Garver, yes," Narwitz said, sharply. "But not that other, N 72. Garver was your friend. No man who wears a number could be that to you."

"This one could," Feld said. "He saved my life."

● Narwitz shrugged. "No difference. It was his duty. You were his commander."

"He saved my life," Feld said, stubbornly. "I can't forget that . . . . But he may be dead. I heard they lost half a tencellion at Zambezi."

"More than that," Narwitz answered. His eyes lighted. "A milcellion and more. That was a magnificent stand for civilization."

"Yes," Feld agreed; he ran his tongue out along dry lips. "It was . . . . After all, now that they've conquered Africa, there's very little left to do."

Narwitz turned, and Feld could see his fingers twitching; it was some nervous habit he had. "They have not conquered Africa. Not yet. They have made a good beginning. Africa still needs men who know how to fight . . . . And there is still the moon."

Some sleeping antagonism roused in Feld. He knew that the other could never withhold himself from the chance to strike at the place where Feld was sore: they had both known long enough that Feld hated fighting.

"There are different ways of doing battle," Feld said, heavily. The more aroused he was, the slower his voice came. "I can fight here, with a test tube. Test tubes have killed more men than all the soldiers in the world."

Narwitz closed his fingers together. "Yes," he said ironically. "You are right. You have served your time. There are younger men who can die. You are needed here. That is right . . . . You are not going then?"

Feld straightened. "I have not said that. . . . ."

They did not speak anything more. The time was getting closer to twelve o'clock, and at midnight Narwitz wanted to have his little minute of watching the dull white ships blaze up over the horizon in a tight beautiful arc, and drop straight down like fallen rockets to the landing stage. All the lights in the city had been cut off, except one halo of ghostly glow encircling the Social Building. The stripped shapes of the receiving cradles loomed, gaunt, spider skeletons of elastic metal.

The crowd around the edge had become silent, and in some way this seemed more impressive from where Narwitz was watching and listening, than the subdued humming that they had made before. It was a great black mass, waiting: a fringe of darkness, melting into the greater dark.

The stars were out, but no moon, which seemed an omen. Narwitz touched a stud suddenly, and one section of the window slid open, and he could lean out on a broad ledge and look up at the black inverted bowl of the sky. He saw red Mars, a bright steady point stripped of secrets. He saw the North Star, unchanging, unalterable to his vision, seeming as fixed to him as any emblem of eternity. He saw three small blinking stars in a row together, grouped low down, very near to the rim of the horizon. He jerked: a minute ago those three bright lights had not been there. Then he knew. The first three troop ships were coming in.

For a minute he could not have said anything. The three points of glow in the sky enlarged, widened, streaked, became long trailing streamers of coruscating flame pointing down. He called over his shoulder, in a stricken voice:

"Feld. . . . ."

"I am here." And Feld was there, just behind, leaning against the window with something of silent conflict in his eyes. Narwitz felt a touch on his bent shoulders, and was grateful, because he knew that Feld had put an arm out to support him while he watched; Narwitz thought he would have fallen in another instant.

"There is nothing like it," Narwitz said. "I am too old, or I would be there. I am too old. . . . . I wish I could fight. If I could fight, I could be there now where they are. I could ride that bright star down the sky."

Feld sensed that the old man's mind was wandering. He had been a soldier for many years; he was steeped in the tradition of the Corps, as it had been handed down from generation to generation. He had faith, and he was strong in it, because before he was a scientist he had been a soldier. . . . .

Service. Where no other men would go, because they were afraid, or because they were too weak, the Storm Troops could go, and the Corps would be there to lead them. One cell was called ten men; nine conscripts from Class three and a commanding Cellion to

lead: a commander bred in the Service. A tencellion was one hundred men, and its officer known by that same name; Jan Garver had been a Tencellion when Feld had served. A milcellion: one thousand men.

The Storm Troops were limited by the Council to one hundred milcellions, officers and men. And the Service Corps was limited to ten thousand members. They had all gone down into Africa to change the world. A hundred thousand, sent across the sea. A hundred thousand, to create order out of the stuff of chaos, to bring light where there had been nothing through the ages except blackness. A miracle, because these were the things that had been done. . . . . .

CHAPTER II

The Test

● Once there had been the jungle, a green trackless tangle, swarming with black men and brown, yellow and white, all intermingled in one unending confusion. And beasts there were, in thousands, in millions. Lion and tiger, elephant and snake. Monkeys chattering, swinging from tree to tree. Ape and gorilla. . . . . Trees. Forest on forest on forest, thick with bush, from the sky's rim to the horizon. And beyond the jungle lay the veldt, and beyond the veldt the desert. . . . . Sand, sand, sand; bleak and lifeless and silent, and hostile to the feet of men.

There were many rivers, swollen with creeping and crawling and swift-swimming life. There were great cataracts, plunging down from giant heights: white plumes rising like steam to choke the air, drumming roar of ever-falling water, the deep booming of a tumbled frothy stream. And over all was filth, and a stench that rotted up to heaven. . . . . .

Now it was all gone. It did not exist any more, because the hundred thousand had come in ships through the sky, and sweat and blood and the bright white teeth of the machines had torn it all away. Now even the jungle was tamed to an orchard, and the rivers fed their plunging force to the turbines that turned the swift and silent wheels of the machines brought by the hundred thousand. Death had come to lion and tiger, elephant and snake; quick stinging death, a painless termination, without taste or smell or even form: sunships circled, circled, circled, dropping white small pellets softly.

The pellets dissolved in smoke, and the smoke vanished, and nothing at all happened for a while . . . . Then death crept out invisible, like a genie uncapped from a bottle. And the animals died, in their hundreds and their thousands and their millions, because it had been decreed, and because man did not eat meat any more.

The atomic made a roar in the night and cast a smoky glare against the light of day, and the desert was taken up and fed to the hoppers, and came out molded into glassite and concrete, stone and steel. The machines created more machines, and these in turn had smaller offspring, and when all had been done, metal had been made from the raw stuff torn from the breast of the earth. But this was good, because civilization had come to transform the desert and the jungle and the veldt, and change it to hold the cities of men.

These things took ten years. Now they were going out across space to roof the moon. . . . . .

Narwitz was pulling at his arm, and he came back from his dream world. "They are going to land," Narwitz whispered, shaking. "Watch now, Feld. You must watch this. It will be so beautiful."

"I will watch," Feld said. He turned his eyes outward, and the ten years that had been rolled away, in one quick breath, and the Storm Troops were returning. He saw three white ships falling from the sky in a singing curve. Down, down, down . . . . The crowd pressed back, and a great soft moan of massed terror climbed up to where Feld and Narwitz stood, and he could feel even the thin steel muscles of the old man begin to contract, because for an instant it had seemed as if the transports were going to wait too long before the repulse jets flamed.

But they did not. At the right moment someone inside the smooth round bellies of the cylinders of metal gave the right command; and pure yellow fire like fairy lights danced out straight against the flat face of the landing stage. The ships seemed to ride down through three tall columns of ascending flame, and drop gently to the embrace of the slip cradles. Metal clashed on metal; the two end vessels struck too hard, and gave short sharp bounds upward, then settled down again: but the first ship struck, clung, and did not move. It had been well handled.

A torrent of sound streamed up through space from the crowd; the lines that had been holding back the thousands were broken, and the stage was abruptly covered by running black dots, sweeping across its face like ants on the march. Flares burst against the sky, in great mushroom billowings of flame. All the lights in the City were turned on again.

Narwitz moved from the window. His face seemed to cave down and break inwardly, now that the strain was gone Feld could not help seeing how much these things meant to the old man.

"Well, it is all over," Narwitz said, fumbling at words with his tongue. "It is all over. You had better go down, Leaf. I am all right here. I will wait until you get back."

"There are ten ships tonight," Feld said, looking at him. "We have only seen three. They will have to clear that crowd before the others can come in."

Narwitz shrugged his thin shoulders. "The first ones were the only ones that counted. . . . . I could not believe that it had been done until I had seen with my own eyes. I can remember when they went off, ten years ago. I was too old, even then; I wanted to go, but they said I could not. Well, there must be discipline, I suppose. . . . ."

"Yes," Feld said. "I know . . . . I can tell you a little, but I've told it all so often since I've been here."

Narwitz put out a hand and touched him, almost fiercely. "Why do you think I wanted you with me, Leaf? For yourself, yes, but that is not all. I wanted you because I knew you had been out there three years; you could tell me things. Did you think I cared about this measuring and weighing that we do here?"

● "We do more than that," Feld said; his eyes had the same look in them that had been in Narwitz' face when he had seen the first ships. "You have done

great work, old friend. What they have been able to do out there, what they will build on the moon, they'll owe to you and to our kind. I think that a scientist is a fighting man, more even than a soldier. We don't fight the same battles, that's all. Ours are more quiet; there are no crowds. . . . ."

Narwitz made a quick angry gesture. "No. You are wrong, Leaf. Sometimes I think you do not know what it is to have been among that Hundred Thousand . . . . I am sorry. I did not mean that. I know you gave all you had."

Feld put his great hands together, and Narwitz heard the sound of his knuckles cracking. "No. I did not. I will tell you the truth now. I will tell you what I have always thought. Every time I have killed a man in battle I have known that I was a murderer. . . ."

Narwitz took two quick steps away from him, and turned. There was no outward change in the old man's face, but Feld could see what was in his eyes. "You had better go, then," Narwitz said, softly. "You had better go. I do not intend to have you here any longer."

"I have known that for a long time," Feld muttered. "You never wanted me, because you knew in your heart that I was right in what I thought. But I'm going. I'll go, right now. Here is something I will leave with you. It came through the tube delivery. . . ."

He took a small bronze cylinder out of the single pocket his tunic held, and tossed it clanging on the laboratory table. For a minute he stood where he was, looking at the room. He took a quick sobbing breath, because he knew that he belonged here. There was something about all this that was the same as something inside him; straight lines, white walls gleaming, the two work tables sparsely covered with the small things Narwitz and he had used so many times. It was so clean. Scrubbed clean. . . . . He hated anything that was not straight and white and clean; if it had been possible, he would have lived in a world smelling of antiseptic and built out of cubes.

He took three long steps, and he was standing in the door, that Narwitz had left open. He looked once more at everything in the room, very slowly and carefully, as if he was impressing every image indelibly on the retina of his eyes and storing it somewhere in his memory; but he did not look at Narwitz.

The door clicked shut. Narwitz went over and picked up the bronze cylinder, and read the signs and symbols imprinted there in the soft metal:

"Notification. Leaf Feld. Class One. Group F-16. You are accepted by the Social Council for volunteer service, pending medical examination. You will report six hours after midnight to the Medical Community Building, Tower 170, Fourth Level. If passed, your service will begin immediately. You will command the eighteenth cellion-group, first Storm Division, Lunar service. Stamped and sealed April 12, 2274. Signature: Wald, Secretary to the Social Council."

Narwitz dropped the bronze cylinder, and it fell heavily and rolled along the floor under the laboratory table, and stopped with a soft clang against the wall; the old man got up, trembling, and walked rapidly to the door, but when he opened it and looked down the wide sweep of hall outside, Feld was gone. He saw a red glow at the end of the corridor; the lift car was just sinking down into the shaft.

Narwitz ran as fast as an old man could but he knew that he was too late.

● Feld was standing inside a huge glass oval, shaped like an elongated egg, its walls curving in over his head to meet and join, and again below him, so that he was enclosed on all sides, and his back rested against the soft smoothness of the container. The examination chamber was elastic and form fitting; big enough to hold him comfortably, yet snug: when he turned and stretched his arms out, the walls inverted their arch as if they had been made of composition rubber. But there was a sense of confinement that he never lost, and that would always be there so long as there were walls around him.

He was naked. A soft enveloping cover of green light laved and bathed him, sweeping in from all sides at the same time, stroking up and down his body; now and then he would feel little pinpricks of pain, but they were always gone in an instant and he was never sure they had been in existence at all. Except once, when the green glow changed to a white harsh glare, and his head tightened like a drum, and his ears rang, and he could hear the fluid rushing wildly back and forth in the semi-circular canals that maintained his equilibrium; he felt blind and lost and destroyed, and something probed, pounded, fingered every shred of his body's fiber. Then the blazing white fire died out. Soft green swept over him again, and he sank deep in delicious lassitude.

The glassite examination oval seemed to fade away suddenly. He woke, and stepped down from the raised platform where it had been, and a man with a number on his collar extended a little pile of crisp-smelling clothes: the blue uniform of the Service. Two other men, who had been behind and above the circular dais holdmg the container, stepped around the curve of a big work table littered with machines and paraphernalia of their medical calling; the leader removed a curious goggled headgear from his bald skull, and made a swift cabalistic sign with the first two fingers of his left hand.

Feld returned the salute instinctively, some long dead reflex of his early training coming to life on the instant. The bald man said:

"You are passed, Cellion Feld. You have been adjusted for life on the moon. Your equilibrium has been restored . . . Go through the door marked Barrack Seven, on your right."

Feld slid silently and swiftly into his tunic; he liked the feel of the silky stuff against the meat of his body. Below the waist he wore a sort of trousers, skin-tight, form-fitting, and around his hips a light chained belt. On each hip he swung a holster containing a grey cylindrical energy tube with two perforations at the bottom end; in need, the tube could be used as a weapon.

The Medical Examiner said, "Are you finished?"

"I am ready now," Feld answered. He straightened. "My rating?"

The other made a little gesture, bringing one hand up to touch the round black button on his collar, that certified his standing in the Scientific Community.

"Passed, Cellion Feld, as I said. 2A-1."

Feld saluted, turned, went through the door marked Barrack Seven. He had not seen it as he had come in, but that was because it was under the circular dais holding the transparent examination shell. As he came within eight inches of the panel, something made a mechanical purring; the presence of his body cut off a light beam striking on a guard photo-cell, and the panel rattled back into the wall. He walked on through.

He found himself in the honeycombed network of barrack chambers directly beneath the landing stages. Many of the Storm Divisions were quartered here. A company of men, about sixty in number, was lining up in an open space not far distant, where the corridor widened out into a rectangular drill floor; the constant cold glow of the Benson luminors beat down in unvarying intensity, making every shadow black and distict. He went forward.

A man in the collared uniform of the Service Corps was standing back six or eight feet from the conscripts he had begun to drill. At first Feld could not see his face, because it was in the shadow, but it was plain that the man's rank was a Tencellion and thus above his own.

Feld saluted. "I am Cellion Feld. I was told to report here. Lunar Service."

"Have you been passed?"

"Yes. Rating 2A-1."

The other's face came out in the light, and Feld's breath choked in his throat. Black eyes like smooth polished buttons. A long narrow jaw, cracked in a hundred little wrinkles. An iron mouth . . . . It was Garver. "I have been advised," the other began, barely glancing at him. "You're commanding the Eighteenth. All right. That comes under me. I'm Jan Garver."

"Garver!" Feld said. "Don't be so damned military. You'll break your stiff neck in that collar . . . . Garver! I thought you were dead! I heard you were at Zambezi."

For a minute the other stood stricken. Then he stared close, and the black eyes disappeared in pockets of flesh. Then came the scarred grin Feld knew so well. "Leaf! Leaf! . . . . . I was at Zambezi. Got two arrows in the leg to show for it. I heard little about you after we separated at Victoria. You were sent back?"

Feld had put out his hand before he thought; then he remembered that there was no handshaking on earth any more, because it had been discovered unsanitary. All the same, he liked the old customs . . . He drew his fingers back quickly, and Garver did not seem to notice.

"Yes. I was sent back. You saw the spear I stopped. Some damned bureaucrat transferred me to the Scientific Division. I've been here in the City since . . . . Have you seen N 72?"

Garver took a step toward him. They both knew the conscripts were watching with dull eyes. "He's in that line there. You'd better think of him as dead. I'm just warning you. I'll have him drop out when they dismiss . . . . But don't get too friendly. It won't do. You can't mix a Name and a Number. The Council's tried that. They're pushing so many of these Two's up into the Service lately that a man can't find any of his own kind."

"Well, they're all our own kind, aren't they?" Feld said, suddenly. "Made of the same stuff. . . . Well, I don't know. I suppose you're right. Still, the Service needs new blood."

The iron mouth was back again. The smile that had touched the thin lips was gone. Garver had always been the martinet. "You think so? I don't agree. We've got Tradition. Oh, I know the sort of talk. You can laugh at it, but down under you know it's true. The Service should be kept clean of these Low Levels rats. . . ."

"They're men," Feld said, "like us."

Garver shrugged. "Again," he said softly, "I don't agree. They do what they're told. They fight because they're ordered. . . . We volunteer."

"Do we?" Feld muttered. "I don't know."

CHAPTER III

Ready to Start

● They were close. The men could not hear what they said. Garver suddenly touched his arm. "I'm going to warn you again. This is the last time. Don't talk like that before the men. The morale's low just now, on account of this moon business. We've got to hold them together. And I don't like that kind of talk from any man I'm commanding."

A brief light came all at once in Feld's eyes. "Now I know," Feld said. "I know why the Council's got to take over the moon. The earth's not enough, because it's crowded here. They've made the Storm Troops, and they've named the few of us, and put numbers on the rest, and they're afraid. There's got to be something for the Service to do. . . . To keep the morale."

"I'm just telling you," Garver said.

"I've been warned," Feld answered, bitterly. "By several people. All right. You're commanding."

Garver abruptly turned. The back line of the conscripts from the Lower Levels had begun to straggle out of formation. Garver's voice whipped and cracked. "Cell Six. Keep to the line. Go over that third maneuver. Right shift. Swing. . . ."

Feld stood behind him and a little to the left, watching. He thought how useless it was to use all these imaginary formations in preparation for an imaginary enemy. There was nothing to fight on the moon. No air, no life, no water. . . . Nothing. Just rock, and lava, and cold splintered dust. And yet Garver was forcing his group to go through the motions; because it had always been done that way, because that was discipline. Tradition backed all these things. Tradition. Do this. Do that. Go here. Go there. Obey! Obey! Obey! The ancients did it. The ancients said it was right.

This faith was creaking and groaning with age. He knew more about the beginnings of the Service Corps and the Shock Troops than half the men who were a part of the Force. He knew more than Garver would ever know.

It had not even been legal, at the start; it was outside the law, an organization a few men had formed to protect the old United States of America from an invasion. And that remnant of the old creed and the old tradition had clung, had grown up with the world somehow, and lived on even in these days of social

unity, even after all the old countries of the world had been melted and sorted and welded to form the United Races of the World. And now all the earth was one race: the Race of Man.

1940. The number sacred to every member of the Service, because tradition said that in this year the Corps had begun. There were not many who knew the date was a monument to slaughter. But he had found an old book with steel pages, crumbling and rotting as he read, yet legible, understandable. And he knew. . . .

In 1940 the United States had been the richest nation in the world, and the softest, and the weakest; facing the Asian Empire under the Japanese Emperor across the space of one great ocean, and the disunited wrangling pack of decadent Europe across a second wide sea.

And yet disarmed; with half a navy, the skeleton of an army, an air force that ranked sixth in size and tenth in power, and thus was worse than none at all. And with all this, there was sectional dissension in the seat of government, no concerted plan of national action, yet an unprecedented arrogance in foreign policy. The United States should lead the world. The United States should say what was right and was wrong. . . . And no air corps that could be called an air force at all.

There were some Americans who had seen these things. Out of that the Service was born. Extra-legal, hidden, spied upon, and spying. The Crusaders, it was called then. An organization of commercial air pilots with some knowledge of warfare, financed by two of the richest men in the capitalistic world; a fighting force second to none built up in the dark, within the framework of an organized society and a paternal central government. Somehow it was done.

The miracle was that all this should be kept so long a secret. Even the Asiatic empire was not sure of its ground. But the rumors that crept along the tortuous channels of diplomacy and espionage were sometimes strengthened by certain fragments of purchased knowledge. Realization of the probability that some such organization existed kept the Empire from attacking for six years. It was a race the like of which the world had not seen before; building and planning and destroying in secrecy and silence.

The break came. The Philippine Islands fell. Hawaii was taken in a single night. Guam, Samoa, all the American naval bases crumpled like cards in a broken deck. The Asiatic and American navies grappled, fought savagely, destroyed each other. The Empire ravaged the California coast. American planes destroyed half Tokio and most of Yokohama. Asian troops held all the territory from the Golden Gate to the spiny backbone of the Rocky Mountains. Europe looked on, apathetic, manufacturing munitions, shipping destruction to both sides. England made a gesture of shaky neutrality. Russia waited for the opportunity to leap on the back of the loser.

● The Crusaders struck. One day the sun rose, and the Imperial islands fought back the Sea of Japan as they had done for many thousand years, and men and ships and planes flowed out across the Pacific carrying death with them. . . . The sun went down, rose again; and the Islands were gone. In a single night. Between the going down of the sun and the rising thereof.

In a single night the Empire of Japan had been destroyed.

Black shapes winging, bombs singing, steel and flame ravaging the earth. Five thousand ships from across the silent seas, noiseless, invisible, flying at altitudes so high that even the modern aircraft defense guns of the Empire could make no more than a gesture pitifully feeble.

The Imperial Islands became no more than scarred gashes on the face of the Pacific. And something had been shaken, some fault deep under miles of water had been reached and laid bare, and the great rock strata began to slip, to slide, to grind together. . . . An earthquake came in the night, greater than any the earth had convulsed to before. A tidal wave rode in roaring. The sea shook. . . . .

Ninety millions of human beings died in a single night.

1940. The year that was called sacred to the Service, because on that date the Crusaders had made America the dominant nation of the world. And because they were not content with the slaughter that had been worked. In a decade the earth was united as America forced it to become united: a single entity, ruled from the City of New York that was now simply the City.

Four times through the centuries there was revolt, and death rode roaring. But the Crusaders had been legalized before then, and their name changed, and the revolts were put down; the Service Corps was born, recruited only from the first class, leading men taken by conscription from the Two Lower Levels. The Storm Troops they were called, years later, and the Service was separated from the Shock Battalions and made distinct: a clique of rulers, an officered aristocracy within an aristocracy: the Corps. And Tradition was behind these things. . . .

The Service had done great things, and the conquering and civilization of Africa was not the least of them. But they represented force, and Feld hated force, even though he knew that it was necessary to a world constituted as this was. And behind force was Tradition, a great imponderable mass, overhanging like a loose shelf of rocks from the face of a cliff, and with the same leashed power to come thundering down in an avalanche and crush those who stood in the way. Discipline was not tradition, but tradition was discipline. The old riddle. . . .

Garver snapped a command in a harsh stinging voice. The group of sixty melted away through the round openings of the corridors leading to barracks. Except one man; a man with bright blue eyes and red hair that made you forget the number on his collar. He followed at a little distance behind Garver, and stopped when he was commanded to stop.

"Come along, and I'll show you where you hole up," Garver said pleasantly. "After you've talked with N 72. I've seen to it he'll be in your cell, Leaf. We haven't much space, you know. Had to crowd ten thousand men into a place that wasn't made for more than eight. But we'll find room for you, all right. Always room for one more."

He turned and walked away, and for a minute Feld and the man with the number stood looking at each other.

"So you live, then," N 72 said, and made a sound in his throat. "I am glad, Cellion. I am glad . . . They never told me after I brought you in."

"Yes," Feld said. "I am alive. I owe you a debt, N 72. I have not forgotten that. I will never forget it. To me you are a man, do you understand? Not a number. . . ."

The other stared as if he could not believe what he heard. "It would be better if you would forget, Cellion. It would be better . . ."

"No," Feld said, "No. Some day I will pay you. I may never have the chance, but I will try. We will never be able to talk much, because it is not allowed. But we will talk when we can, and you will be in my cell. Jan Garver has transferred you."

"For that I thank Jan Garver," the red-haired man said stiffly. "I am glad."

Feld turned. They did not speak any more. The red-haired man went another way, and disappeared in a corridor. Feld went over and followed Garver. . . . .

Feld said, striking out directly: "When do we leave for the moon?"

● Garver stopped, just inside the arched curve of a center hallway. Feld could see little narrow doors at brief intervals all down each side of the smooth corridor; he thought, with a shiver of repulsion, of how crowded it was going to be.

"That is not known," Garver said, slowly. "It would be better if you do not ask me again. I don't know. We won't be notified until the last minute. I told you we'd been having trouble with the men. A lot of fools, some of them. No more guts than . . . . Well, they're afraid, that's all. They don't trust the ships to get them across space. You can't explain it to them. They say, why should there be a roof put over the moon when there is still room on the earth? Nothing you can tell them will convince them."

Feld looked at him, weighing him. "There's a possibility they may be right. There have been only six voyages, back and forth. There are just ten men on the moon right now, in the Tycho Observatory Station."

Garver shrugged. "You know a lot, don't you? Well, there's no more danger than they faced in Africa. Not as much. I've never seen anyone die that way, but I can't imagine bursting to pieces all at once is very slow death. It oughtn't to be so hard."

Feld put his hands together, knuckle on knuckle. "I know this much: it is harder than you think. It might take hours to die that way. . . . I am afraid, I admit it. But I am going to go. It takes more nerve to go when you're afraid. I can't be like you."

Garver stared at him very hard. "Well, you're a queer bird. I'll say that. You can talk that way to me, because I know you and I know your record, but I wouldn't make a habit of it. I'm just telling you."

"Yes," Feld said, slowly. "I know. I'm sorry. I run off at the mouth too damned much. I get going and I can't stop. . . ."

Garver made a gesture. "Forget it . . . I'll take you round the place. Get you in at the officer's table. We've got some good lads."

"Do I know any?" Feld asked.

"Well, I'm not sure," Garver said. "One or two, I think. There's Ferst. He was at Victoria. And Bagner: Zambezi. Oh, a lot of good lads. You'll like 'em."

"Yes," Feld said. "I probably will."

They turned down the corridor.

The place where Feld slept was six feet wide and eight feet long. There was just room in it for a bed and one low metal chair, and the round mouth of the ventilator; and nothing else. Overhead, in the wall, was the electric buzzer that could be used to signal him at any time of day or night. Garver had told him that when the time came when they were to go, the buzzer would give three long rings twice and two short rings once, and that would mean that he should immediately mobilize his men.

All day for many days he had heard the hammering and pounding going on at the landing stage above his room. Even at night, when his room was a closed and sound-insulated cell, the silence rang. Now and then he could hear the hissing sizzle of electric welders, and he could catch the little clicking murmurs made by mechanical cranes and the giant weight lifters. They all knew, every member of the ten thousand who were to go along on this first Expeditionary Force, that building was under way up above, and that the ten great ships that were to carry them were being refitted and modernized for travel in the vacuum.

But one thing they did not know: and that was the time when they were to go. . . . . .

Something made a noise in Feld's brain, a throbbing and insistent clamor, sinking deep into his consciousness. He woke, sat up, put his legs over the side of the low bed. He waited, listening. The buzzer rang three times, and stopped.

For half a minute he was paralyzed; his heart caught, and his breath choked and rattled in his throat, and at first he thought he was never going to move again. Then the buzzer began ringing the second time, and there was a space full of silence: then two short rings, one after the other, stabbing, commanding.

Mechanically he stood up. His tunic was near. He felt for it in the dim night light and put it on. As he finished dressing the dimness was swept away by the sudden upflinging of pulsing white glow through all the Benson globes all over the barracks. Night changed in an instant into day.

He wondered what time it was. He looked at the small, inch-square chronometer set in one of the metal links of the chain belt about his waist: it was four o'clock. In another hour the sun would be coming up over the world above. He wondered how it would be to see the sun again after all this time. . . . . Then he realized that he had only been in this place for one week. A week. That wasn't possible. One week.

CHAPTER IV

Toward the Moon!

● He locked the belt around him, and walked to his door, and the narrow panel clicked back from before his eyes. The corridor outside was crowded with steadily marching men. Men and men and men, walking with the same even step, the same swing, the same purpose stamped on all the faces that he saw.

And that was another thing he never forgot. The

way the ten thousand came out, steadily and surely and quietly, because there was a job to be done: and took formation in the open drill square before the barracks, and began to march up the ramp toward the landing stage. Rank on rank on rank. . . .

He found his place, just to one side of his cell. Garver stood at the head of his hundred, stiff and straight: mouth iron, face iron, eyes like unwinking stone. Garver gave the order:

"Forward. Quick step."

Down the line the feet shuffled. Feld's hearing seemed suddenly to be so sharpened that he could hear each separate click-click as the little metal tabs in each man's shoes struck the metal floor; quick tapping small sounds that grew and blended: click, click, click, click. . . .

When the time came he swung his group into the stream of men, his body slightly in the lead and at the right, his face turned ahead. They shuffled past Garver. Feld gave the salute. Garver made a quick flick with upraised hand. Click, click, click, click, click. . . .

It was dark above. Feld thought it did not seem to have changed at all since he had last seen it. The same cool blackness was here, and the crowd swarmed at the edges of the huge gleaming vista of white metal, and over all the high dark towers of the City loomed, and he wondered if Narwitz was standing at one of those bleak windows, watching. He knew that the old man would be somewhere up there.

Then he saw the ships, all ten of them lined up and waiting. And that was the first time that he realized they had a clean beauty of their own: dull white shells, ivory in their coating of the soft absorbent metal which sucked in the power of the sun and turned it to repulsion jets hurled from the fire chambers. Long smooth cylinders these, stream-lined, shaped to fit into the wind. And above, the control cabins: glassite covered teardrops hugging the round backs of the ships, like jockeys riding great metal animals. . . . And below, wide stairways winding up and up through the skeleton shapes of the holding cradles, along which the ten thousand were marching.

The moon was up, and again it seemed an omen. The full moon, round and bulging yellow and pitted of face, like a pock-marked old man, with the craters showing black against a huge background. Feld watched, and caught the pinpoint flashing of one small light on that great round face, and that was the Observatory Station in Tycho Crater. Ten men in the moon. . . .

His group was among the last to go in. They passed through a narrow opening, went down three steps, stopped in a thin cramped corridor not unlike the barrack halls, except that this was still smaller and more crowded with men and not as wide. Feld thought, good God, we will have to live in this little space for five days.

He turned in time to see the great gimbaled weight of the airlock plug shifting and swinging into place. There was a soft murmur and a metallic scraping, and a low hiss of air as the cracks around the door were sealed. They were locked in now, and there was nothing any of them could do—except wait the five days.

Garver came hurrying down the corridor from above. He stopped near Feld. "Dismiss your men, Cellion. We can relax discipline a little here. Their rooms will be on the same plan as they had down below. We are not starting for five minutes."

"It will be crowded," Feld said, slowly. The other stared at him. "What did you expect?"

"Nothing," Feld said. "Just this, I suppose. . . . Just this."

Garver turned away, calling back over his shoulder: "If you like you can come up and watch the take-off from the control cabins. But it will be more crowded up there than right here."

"Well, I don't know," Feld said. "I'd better stay here, then."

He turned to his men. He had been lucky. He had gotten ten intelligent conscripts, all healthy big men, with life in their eyes and adventure in their veins. It was queer that he should be commanding them.

But they were conscripts, and there was only one he could trust in more than the rest, and that was N 72. They had talked a few times, though not much, because the Service did not fraternize with men of the Lower Levels; yet there had been cases known where Class Two numbers, and even Three's, had earned the right to use a name. There were so many people in the world now, and so few names, that the Social Council had been forced to restrict their use to members of the Service Corps and of Class One. But there was still an old law that any man who had proved his worth above the class to which he was born, could be named a member of the First Level, and even in time rise to service with the Corps.

● "N 72," Feld called. The man detached himself from the line and approached. Again Feld noticed that though he was smaller than any of the rest, his eyes and hair made him stand out, because these were qualities rare among members of the Levels.

"Yes, Cellion. I am here."

"Dismiss the men," Feld ordered. The other turned and spoke rapidly, and the other eight broke to right and to left and vanished in their cells. N 72 saluted.

"It is done, Cellion."

Feld hesitated. He said, suddenly: "I'm going above to watch the take-off. If you like, you can come along. Did you instruct the rest to use the acceleration compensators provided?"

"Yes, Cellion." The man's face was bright with an eager glow.

"Then come along."

They went through the corridor to its end, and climbed the narrow steep stairway driving straight up through the sections of the ship to the control cabins. N 72 walked a little behind his leader, as was fitting, but Feld did not seem to notice whether he did or not, and after a while N 72 was at his side, though still keeping a respectful distance.

They came out within a huge curved dome, its glass walls sweeping in an arch overhead. In the middle there was a circular cylinder, seemingly fabricated out of solid metal, yet light of weight and easily swung along its axis by the small electric motor that operated its movement; the sides of the cylinder were banked with studs, and at the top were long rows of light tubes with a constant interchange of cryptic red and green glow going on among them. Around the central cylinder at short intervals bucket seats were set in the floor, and laced tight by a spider network of stellite braces. Six opera-

tors were constantly on duty, each handling that section of the ship governed by his division of the controls, and more particularly the firing chamber which came under the influence of his power lines. There were six power chambers through which the repulse jets escaped: two forward and two aft, and one above and one below, so that the free play of forces in space could be counteracted from any direction at any time.

This part of the ship was divided into two cabins, one containing the control cylinder, and the second used as an observation car. The second cabin was by far the bigger; it consisted mainly of a huge glassite dome with electro-telescopes pointing outward at even spaces all around its curve, and an expanse of glassite directly overhead which served the same purpose as a skylight: through it the whole sweep of the heavens was visible.

N 72 made a choked sound in his throat, and Feld glanced at him. The smaller man was standing frozen, his feet braced as if to keep him from reeling and falling, his blue eyes wide in his thin pinched face. Feld knew that he had never seen anything like this before.

"They're going to take off soon, by the looks of it," Feld said softly, touching him. "We'd better get seats if we want to live through that first acceleration."

The other nodded, as if he could not trust himself to speak. His voice came hoarse. "Yes, Cellion."

Feld saw Garver, standing just inside the connecting arch between the two cabins. They went forward. Garver looked up and grinned as he glimpsed Feld, and then frowned, because N 72 stood there.

"Haven't you heard the orders?" Garver demanded, sharply. "No classes below the rank of One are allowed in this part of the ship. He'll have to be sent back down at once, Cellion."

"I am sorry," Feld said, stiff-faced. "It is my fault. I did not know. N 72, you have heard. You will return to your cell at once."

And this was a thing hard for Feld to speak, because for a little while he had forgotten that there was no longer any equality among men. He saw the look of disappointment in the smaller man's face. The other seemed to shrivel down inside himself, as if he had been expanding and then abruptly deflated: and the points of light that had been in his eyes flickered out. He saluted, slowly; turned, walked stumblingly away.

"It was my fault," Feld said again. "It was my fault, Garver."

Garver shrugged irritably. "As for me, I don't give a damn whether he's up here or not. But orders happen to be different, that's all. You've got to get a little better discipline in your men, Feld. I've been watching you. You don't handle them right. You're too easy."

"Discipline," Feld said; his voice rang like iron. "Yes. I am sorry. I will try to change that in the future."

Garver did not say anything more. He did not understand this man. But Feld saw why N 72 could not have remained here, when Garver had stretched his lean body out in the compensated couch provided, and left Feld's vision clear for the whole room; all around the circular walls the cushioned seats were ranked in sloping tiers, rising at a slight slant upward from a central point: he looked down from where he stood, and realized who it was that lay in the middle. It was the Lunar Commander and his staff. This ship, then, had been chosen as the flag leader for the Moon Fleet.

Garver jerked at his sleeve. "There's a place here, Feld. Get down. We're starting in half a minute."

Feld slipped silently into the cushioned vacancy on Garver's right side. The silky substance of the couch closed around him, held him in a soft clinging grip. He let his muscles become loose, lay lax and easy-jointed, because he knew the shock of the take-off would be the greater if he braced and fought against it.

A slight trembling ran up and down the length of the ship. The only direction in which his eyes could range was directly above, and he saw the sky swing, shift, swing again, become inverted strangely. In a dim way he was conscious of shouting and rumbled thunders, the long backlash of the ship's drive jets swirling across the great covered curve of the cabins, the heavy wrench of every muscle in his body as the force of the acceleration smashed down on him; but all he thought of before the blood rushing to his brain cut off consciousness was how queer the sky looked. The vessel swayed, and the stars seemed to change their courses, burst and flare and die like guttering candles in a dark wind. Then the moon's face loomed, gigantic, overpowering, blotting out all the rest of his vision. Blackness caught him, and he shot down, down, down. . . .

But this roaring dark was like a wave that swept over his brain and left it clear. In a little while it was gone.

At his left Garver was beginning to sit up. Feld saw his white strained face take back its color as the blood that had been drained rushed into his empty veins.

"Good start," Garver said, hazily. "Good start."

Feld turned his eyes away from the spectacle of twin shining streamers that marked their path in luminous mist behind the hull of the speeding ship. Already the earth was a round-faced ball, slightly bulging at the middle, like a fat old man.

"Yes," Feld said. "Good start."

● Feld pressed the crude handle of the lever set in the rock wall, and the heavy stone door began to move wide, groaning and scraping. He did not wait until it had gone completely open; with a little mutter of impatience he shoved his body through the expanding space, and struck the inside closing switch with the heel of his hand as he passed on.

Four times he had done that, on his way from the cave carved out of dry rock that was his cell, and each time his eagerness had grown, until his impatience was like an aching scar within him. Every morning it was the same (if there could be mornings in a place where night and day were only marked by a slight diminution or expansion of the Benson globes). Yet he hated the great room to which he was going worse than the dry brittle walls of his cramped cell in the Lunar underworld.

But he could not keep away. There was a fascination for him in the high smooth curves of the giant power tubes that banked in their hundreds, rank on rank, up almost to the shadowy vagueness of the distant ceiling. There was something that drew him in the shuffled clatter of motor switches as they raced back and forth across a web of interconnecting tracks, unhurried, methodical, contacting each circuit at the right instant, clicking and humming and pounding like little busy animals, black and shiny. . . .

He touched the shoulder of the operator who sat with eyes fastened to the immensity of the great power board

in front of him. The other jerked around, glanced at him, nodded.

Feld asked, "How many gone, your shift?"

It was the question he always put. He kept his face impassive. The operator got up, tightened his chain belt, shrugged; still he would not look directly into Feld's eyes.

"Eight ships, fourteen men. They picked up the crew of 960-R in Crater 16."

"Eight ships," Feld got out, jerkily. "Eight. . . . How much longer are we going to last?"

The operator gave a short barked laugh. "I don't know. I don't give a damn. I guess we got to take our chances."

"Yes," Feld muttered, "yes. That's right. . . . I'm taking over. You better sleep."

The other shrugged. "I could use about four hours."

He was gone. Feld slid down in his place, buckled the harness around him: the harness consisted of elastic metal strips woven together to form a swinging chair, that could be lifted or lowered any distance from the floor desired, dependent on the operator's necessities. In it he was like a spider, a blue and purple spider, creeping and crawling over the web of the power board. On his hands were the light metal-fabric gloves all the switch operators wore, ending in thin tubes of gray green; the direction cylinders were about six inches long, each containing a ball socket that fitted against the tips of the wearer's fingers. When Feld wanted to change the set-up of any part of the big board, he pressed his fingers deeper into the gloves. A hissing stream of force would shoot out, driving in the studs of the center coordinating panel. Pressure released, the studs automatically sprang back in their former position.

Always before him, as he went up and down and back and forth along the face of the switch panels, and watched the changing lights rising and falling in the huge power tubes, was the narrow televisor plate that gave him a view of the outside world and the construction he was directing by broadcast control.

The airless void above the moon's surface was a dark background against which the small pilot lights of the sun-ships swung and flickered. A thousand of them out there now, operated by two-man crews, fabricating the great skeleton network of bare stellite girders that was beginning to reach out over the white rays of Tycho. The process of covering was not yet started, because the plan laid down called for completion of the stellite frames over the whole crater before the piled sheets of the glassite stored in underground caves were picked up by the swooping ships and carried into place.

On any other world but the moon what they were doing here would have been impossible. But the lesser gravity, the lack of air that gave freedom of movement and ease of direction to the fabricating ships, combined to make feasible the miracle. In another month there would be the framework of a roof over Tycho Crater. In six months the great sheets of covering glassite would have been fitted and welded into place, the disintegrators would have torn the bare rock of the crater floor into atomic fragments and rebuilt them into air molecules, the welders would have melted the fissures in the sides and bottom of the great pit, the molten stone would have run together in one smooth mass: and Tycho would be habitable for human life.

CHAPTER V

Into the Depths

● The Storm Troops were to build only the roof and create the atmosphere to fill out under it. Then they would be recalled, with the exception of a skeleton guard, and the colonizers would come in their thousands to finish the work and make of the moon a second smaller earth: because there would always be men restless under the existing order and ready to try their hand at creating a new world.

Feld thought of that, but he thought also of the four thousand lives this first giant roof had cost thus far, and that it was only a little more than half finished. Stone and stellite and the coiled power drawn from the sun into collecting mirrors, had all gone into the making of this thing; but the catalyst which had balanced the equation had been compounded out of sweat and blood.

He never thought of how many men had gone to their deaths because of some small break in the smooth flow of power that he broadcast to a hundred ships, because that would have meant madness, and he was not quite ready yet to go mad. It could not be called any fault of his that power failed or something snapped in the delicate makeup of the hoist ships, and a flash of light on the narrow screen showed where a smooth stellite cylinder smashed down to the hard face of the moon. He had seen men die before, in Africa. . . .

Below him, the stone door opened with a creaking sound. He glanced down from where he hung spider-like up on the sweep of the great board. Garver had come into the room.

Feld let himself drop in a swift hurtling arc, stayed the fall just as his feet touched the smooth floor. Garver was changed, the way they were all changed by these months that had gone by on the moon. But Garver was changed more than most, and that was queer. Some of his iron had been melted and burned out of him: he was not so hard as he had been.

"Have you lost any ships, Cellion?" Garver demanded.

"No," Feld said, heavily. "Not yet. I've just come on duty. Haven't had time to lose any. But there will be some, soon. There always are. . . ."

Garver looked as if he thought there was some accusation against him in that. "Well, it's more than half done. We can be getting out of here in another six months."

Feld said, simply: "I don't know about that. But I know that we have lost four thousand men."

"Yes," Garver muttered. "You never forget that, do you?"

They were silent for a minute. Feld worked at the board. Suddenly: "Is it worth what we've paid?"

Garver looked up at him. "Yes. I think it is. They were glad to die. . . ."

Feld shrugged. "Do you believe that? . . . I don't. No one is glad to die."

Garver glanced away. "Well, I don't know. There's none of us can know till the time comes. . . . Are you still afraid?"

"No," Feld said. "Not as much as I was. I have been sure since I came here that I am never going back

to the earth. So I am not so afraid any more. Yet I do not know when I will die."

But there was a thing peeping out of his eyes that Garver did not want to see. Garver suddenly became brisk and military.

"You know the other orders, Cellion. Report all losses of ships and men immediately on notice to Central Headquarters, at the Observatory Station."

Feld did not answer, because he could not. There had come, just as he was going to speak, a great flaring burst of light in his vision plate, and he saw three ships strike together in mid-flight. The light flowered swiftly and monstrously, like a mushroom of unhealthy glow, arching over and down. Down and down. He thought he heard the hollow crumple of that distant impact ringing in his ears. . . .

"God!" cried Feld; he had ceased long ago to believe in the deity, and yet he never thought it was strange that he should call on that name now. "God!"

Garver said, in a taut metal voice: "How many down?"

Feld shivered all over. "Three ships, right at once. It was my fault. God, it was my fault. I wasn't handling them close, and something seemed to slip, and they rammed all together, and they went over, all on fire. . . ."

Garver let his breath hiss out through his teeth. "Fire!" he said, dazedly. "It was over quickly, then. You couldn't have helped it. There've been other cases like that. I'll report it in for you. . . . It must have been over quickly."

"Not fire," Feld said; his head shook like an old man's. "Not with fire. It must have reached them before they fell. I've always been afraid of going down on fire. I've had a horror of it. . . ."

Garver repeated, insistently: "It was over quickly. There couldn't have been any oxygen flame, where there was no air. It must have been just one big flare, and then the metal fused. It would have all been done very fast. . . ."

● Feld looked at him out of strange eyes. "No. Those ships were welders. They carried double-thermite. It would burn until every atom in those three shells had been used. . . ."

There was a space full of silence. Then Feld said, "You are always asking for volunteers, to go in Service on the Outside. All right. I will go. I ask now that you give me an appointment as a replacement in the Welding Division."

Garver stared. "You are mad. I refuse. You are too valuable here. We have lost more officers already than we could afford to lose. . . . Do you hear me? I refuse."

"No," Feld said. "No, you won't. You'll have the appointment next shift. . . . I am not mad. You know that."

Garver had known from the beginning that he was not going to refuse. "All right," Garver said, shrugging. "You can take one man from your cell to go with you. You won't get any to volunteer, I can tell you."

"I think you are wrong," Feld said slowly. "I am going to give them the chance, any way."

Garver looked at him. "I can't stop you?"

"No," Feld said. "Nothing can stop me."

Garver glanced around; there was no one near. Suddenly he held out his hand, and Feld took off his glove, and their fingers met in a quick firm grip. Then Garver said, low-voiced:

"Good luck."

Garver turned and went out. Feld never noticed how many ships he lost that shift, but it was not many. Some part of his brain was straining, straining. He never knew how the hours passed. . . .

Then it was as if he came out of a fog in which he had wandered for a little while. Behind him he heard the heavy scrape of the stone door creaking open, and the quick impatient step of his relief. He waited until the man touched him on the shoulder.

Then he turned. He knew the two others who worked with him on this section. This one was a conscript, with a number instead of a name, and a dour glum face, wizened and cracked in small fine lines like a lemon, and as yellow of skin.

"I am not coming back," Feld said, quietly. "There will be someone else to relieve you. Tencellion Garver has given the order."

The other made a low grunt, and Feld did not wait to hear if he had anything to say. Feld went out through the stone door, and along the narrow corridor cut through the rock to a second portal; he opened this as before, passed it, and stepped into the next link in the cave chain. All this part of the moon under Tycho Crater was honeycombed with caverns natural and man-made, all air-tight, all inter-connecting, all with those heavy stone doors manually operated by levers to save power.

He came to his own section. Half the cells were empty at this hour, because every man on the moon worked and slept in a routine of changing shifts, and took food and drink at certain specified times. The food was good, but heavy and lacking in variety because most of it was synthetically compounded from powdered lava, and power was hoarded here, being the great necessity without which no man could have lived. Still there was enough water, because water was easily made.

The red-haired man saw him coming. Feld had thought that his face was unchanged and unreadable, but the blue eyes reflected a sudden darkening as if in sympathy with what they saw in his own.

"Call the men off shift together," Feld said. N 72 looked at him slowly, and it was the first time Feld had known him to hesitate over an order. "Why, Cellion?"

Feld said, without thinking: "Because I am going to give them all an opportunity to serve under me Outside. I am transferred to the Welding Division beginning tomorrow, and I can take one man with me."

The red-haired man straightened. "No need to call the others, Cellion. I am ready."

Feld's face did not change, because he would not show what he felt, but he did something then which was against all the laws of discipline that he knew: he put his hand out and pressed the red-haired man's thin shoulder.

"I could ask for no better, N 72," Feld said, and his voice was hoarse. "You shall go."

The other clicked his heels and saluted.

● They stood in a long line, men and officers together, in front of the slip cradles holding silent ranks of

ether ships. A milcellion commander read off rapidly a list of names from a smooth scroll in his hands; his voice was metallic and slurred, rising up and down the scale, but Feld heard when his name was called, and N 72 followed him into the little round ship.

They lay flat on the floor, with the walls of the vessel close about them, fitting into the depressions shaped to hold their bodies. Feld put out his hands, and touched a smooth row of studs and switch-handles, and these were the few controls needed to respond to the power that came from the broadcast centrals.

The air in this hollow cavern where the ships were berthed was very thin, and when the ceiling split in two halves and rolled back, Feld caught just a small hissing sound as what atmosphere there was rushed out into the void. All the men in the line had been wearing oxygen helmets and ether suits, and they were worn even inside the little ships, because there had been cases where the suits had saved lives in an emergency. And no man could live on the outside of the moon without a suit.

Feld had a pair of earphones attached to his headgear; when the order to take off came, snapping and crackling against the phones, he was ready. He advanced a switch. The ship shot upward as if released from a trap, like a caught bird suddenly rising free. He heard N 72 grunt softly at his side.

Then they had shot past the high walls of the slip-cradle cavern, and were roaring out into the space above. The huge vault of the sky enclosed them in a black and gigantic hollow sprinkled with the white dust of the stars. It was the middle of the long lunar night, and the terrific cold crept in through the laced seams of the ship, and made a difference even to Feld and N 72, wrapped as they were in heated space suits.

Suddenly Feld shivered, but not because he felt this outer bleakness creeping in. It was something subtler than that, sifting from within himself, and for an instant he felt as if all the darkness and black evil of the Universe had come across space and muffled his brain and choked his blood. Then he knew that he was going to die out here. How he knew it, he could not have told, except that it had been with him since he had come to the moon, riding on his back like some Old Man of the Sea. And he thought he would be glad when it did come, he had been so long afraid. . . .

The ship was driving up in a direct curve, arching back toward the pointed fingers of an unfinished frame that jutted out from the main mass of the roof. Now Feld forgot his fear for a little while, and worked with his hands at the simple mechanism of the response controls, and felt the feel of power steady and sure, pulsing across to him from the broadcast station. N 72 was the welder, his fingers wrapped around two grips like the triggers of an ancient machine gun, pressing against the cool metal.

Flame tongues licked out from the pointed nose of the little ship, blaring in and down just as a hoist crew swung a double-linked girder across to position. The hard white metal turned yellow first and then cherry color, and ran at last and melted together. The ship swung away when the welding was done, came around again, and around and around, in short clean arcs like a diving bird's; and each time that Feld sent it plunging in, there was a target placed for N 72's outreaching fingers to throw flame at, and the welding went home surely and quickly.

The roof grew, all up and down the line of ships, but slowly, because it was a monstrous thing as hard to stir as any giant because of its size, and yet it responded to the spinning and singing of the vessels that filled the void above. Once Feld saw a welder miss aim, and a hoist crew came crashing into contact against it, and there was a huge soundless concussion. . . . And that was all: down toward the scarred dark below cindered fragments rained. Then his fear crept up in him, like a palsy to shake his brain. . . .

The weld ships worked on four-hour shifts with eight-hour rests between, because no human organism was built to stand the strain of rising and falling and spitting out flame, for longer than that. Feld had forgotten that there was any such thing as time, and he felt jerked back from a hot dream when a voice snapped in the phones:

"Weld ship 86, Cellion Feld commanding. Return to base. Return to base. Weld ship 94, Cellion Feld commanding. Return to base. Return to base. . . ."

When he was swinging the ship around to go back, it happened. The reason, he never knew; nor anyone else, because it was without reason. The ship had been inspected for strains and breaks four times before he had taken it up, and the hull was sound as braced and interlocked stellite girders could make it: and yet the thing happened.

● Something broke, like a heart's valve snapping, a long shrill crack that grated and tore his ears as if the universe had been rended. The power rose in a racing wave, and then he could feel it hesitating, pulsing, subsiding. . . . And then it was all gone, and there was nothing. Somewhere, the flow of force seeping out to the reception units of the ship had broken a link in the chain.

The ship sank straight down. He thought of N 72, lying there beside him. . . .

"All over," Feld said. "All over. It won't take long."

"No," N 72 said, softly; Feld noticed without surprise that there was no fear in his voice. "No. For that I am glad. It will be so quick it can not be very hard. . . ."

But it was not as they thought. Feld saw what was coming first, and something cringed in his soul, and he tried some way to jerk the ship on a different path, but he tried too late. There was a long narrow fissure looming in the cracked floor of the crater, and the vessel drove straight down through it; the sides were just wide enough for the ship to scrape past the opening, and somehow that wrenching and grinding held them long enough to check that first plummeting speed.

The ship smashed. Metal screamed, and the walls buckled and convulsed in a crystalline agony all around them, and Feld thought he heard someone give a great voiceless cry, and he seemed to know that this was himself. But N 72 did not try to make any sound at all, and it was not because he was dead, but because he would show no fear.

Feld did not lose consciousness even after they had struck, and the rocking and grinding had stopped. The first thing he said was:

"God! They'll never get to us here."

"No," N 72 said, in a torn whisper. "Not even if

they saw us fall. There'll be a ship or two sent this way, but they won't look down this hole, and if they looked they could do nothing. . . ."

Feld made a choked noise in his throat. "Well, I was wrong. I thought it would be quick. . . . It may take a long time."

The other moved his head as if to signify agreement. "Yes, Cellion."

The ship seemed to have split right down the middle, and broken into two equal pieces. He was in one half of the shell, and N 72 in the other. He tried to move, and discovered that he could; piles of twisted plating were on his body, but weight was not weight on the moon, and he had the strength of six men in lifting.

Hope burst and grew like a warm seed in his brain. His suit was not cracked. Its smooth elastic fabric was strained and scraped thin, and his body was so bruised that he sweat great drops all over his face when he moved; but he had nothing broken, and he was alive, and there was clean air in his helmet. He listened: he could hear the busy hum of the compact oxy-generator; then he was so glad, that something came out of his eyes and made wet stripes down his cheeks. But he was ashamed, because he saw N 72 looking at him.

"Can you move?" Feld asked, quietly. The other did not seem to have been caught under anything at all, but there was something about the way his body was lying. . . .

"My leg," N 72 muttered. "Broken, I think. And I believe the suit's torn somewhere. I can feel it getting cold."

His words came out one at a time, separate and distinct. He was panting, and his tongue seemed to stick like gum to his lips, and he had difficulty in speaking

Feld got up. He stood swaying a minute, planted on his feet. Nausea went over him in a great wave, broke, faded. He could walk, by putting his feet down carefully on the rough floor of the pit. He put his hands under the other man's arms and raised him, dragged him that way to a smooth open space where there was a dim light penetrating from the stars.

There was a long jagged tear around the right leg of the other's suit, and through the transparent fabric he could see a bone sticking up under the other's skin. . . . He fought back his sick trembling.

"Can you stand a little pain?"

"Yes," N 72 said, through his teeth. He was blind with the sweat running down all over his face. . . . "Yes. What are you going to do?"

Feld unclipped the energy tube strapped to the belt going around the middle of his suit. They both wore two of the tubes.

"Your suit's metal," Feld said, heavily. "It'll have to be welded. . . . It may burn you a little."

"Go ahead," the red-haired man muttered.

Feld bent down. He could see the other tearing at his lips with his teeth till the blood came. Feld had a wave of weakness go over him, and then suddenly he became very steady. He placed his feet wide. He aimed the tube. His hand within the metal fabric glove was cold and hard like rock. He pressed his thumb against the release clip.

A brief burst of white light blossomed like a hot unhealthy flower. Flame seared out. . . . The jagged rent in the suit was gone, but N 72 could not answer when Feld bent close and spoke. The other's body was drawn up in a convulsed knot, and there was a great raw scar on his leg. . . .

● A long time later N 72 said, "I'm all right. . . .

God! I thought it would finish me. But not now. I'm all right."

Feld propped him against the sloping side of the dark fissure. He glanced around them. He thought, hopelessly, that there was no way of getting out of this place.

His mind took that thought, and worried it, and ran around and around in an endless circle, like a squirrel in a spinning cage. No way of getting out. . . .

He looked at the energy tube he still held in his hand. It was burned out, useless; he had burned the charge. He tossed it on the floor of the pit, a little distance away. It made a clanging sound that echoed and re-echoed all up and down the narrow canyon for a while. Then the sound died, but Feld thought, there was evidently a trace of air here, because sound would not travel in a vacuum.

"Well, we can wait," N 72 said, "Or we can get it over. I can't think now why I wanted you to do that. . . . Except that it was just to give me a little more time to live."

"Yes," Feld muttered. "I know. It's something born in you, something you can't get out. To keep on struggling to live, even when you realize it's useless. . . ."

Something clicked in the red-haired man's brain. He said, suddenly:

"I'm not ready to die yet. Did you hear the noise that thing made, when you tossed it there? A clanging. . . ."

The other stared. "Yes. What did you expect? Metal on metal makes that kind of noise."

Some of the red-haired man's exultance left him. "Yes. That's right. It does. . . . But there must be a little air here, and there's a chance the floor here is hollow. We might be directly over one of the Service caves. If you could burn a way through, you could drop down. You can jump a long way here, and land light."

Feld nodded. "I see what you mean. There's just a chance. But it could be done. . . . I can try."

He sprang up, went over and took the empty tube back in his hand; he looked at it. "Well, I've got one other tube," Feld muttered. "You've got two. They ought to burn through, as far as I could jump, anyway. . . ."

But they both knew what he was thinking. If Feld had not used that first charge to weld the torn suit together, he might have worked down, jumped through into a link in the chain of Service caverns the Corps had made under this part of the moon. He could have had life, if he had let the other die. . . .

Feld looked at the smooth space near them. "That's as good a place to start as any. Give me your tubes."

He loosened them from the other's belt, stood back a distance, aimed, pressed the release that sent the power leaping out to burn its way into the floor. White and yellow glare beat smokily for an instant against the walls of the fissure, outlining them both in sharp black figures. Then the glare lifted, and an opening showed in the brittle gray rock under them. But beneath the place where the flame had eaten there was more rock, solid and unyielding.

Feld flung the second tube, and the third. When he finished, the dust that had lain here for ages undisturbed was whirled upward by his firing, and obscured

us. With no certain way of finding the *Girondelle* again, even if we had desired to return and fight the horror that was in it, for possession, I doubted if any one had the physical strength for the return trip. We must pin our hope on finding the tunnel to the crater. If this failed us, slow starvation was the best we could expect.

By the fourth hour of the morning we had reached the point where according to my calculations the opening of the passage that led to the crater ought to be. Here the party stopped, as by a single accord, and sank down in frank exhaustion.

I went to Diane whom Dutch, as the only man with the necessary strength, had carried in his arms for the past hour. She sat with her head thrown back against a great rock, her eyes closed with weariness and her breath coming rapidly like that of a person who is on the verge of heat prostration. Halliday knelt by her helplessly. Impulsively I stooped and kissed her, openly and without shame. Startled, she opened her eyes, just for the barest instant, then closed them again and returned my kiss.

● As I rose to my feet again, I noticed a singular restlessness among the men. Three of them were walking frenziedly about, their faces twitching with sheer nerve tension. One of them passed within reach of Barney. The latter, mouthing an oath, reached out a hamlike hand, caught hold of an ankle and tripped the fellow flat on his face.

Instantly the man went berserk. He rose to his knees and brought round his axe in a back handed blow that would have finished the Irishman if it had found him. But Barney wasn't there. He had leaped aside as he saw the blow coming and, losing his footing, had rolled down a little slope that fell away from the tiny stone plat where the party was resting.

Now the would-be murderer rose to his feet and stared at the spot of the Irishman's disappearance with open-mouthed astonishment. Barney had disappeared as completely as if he had melted into mists of the Da'Elin.

Together we crowded forward, advancing carefully down the slope and peering before us. Steeper and steeper grew the slope until I called a halt. To my surprise the men did not heed the command. Not until I extended my arms in signalled command was there pause. There could be only one explanation for this. *We were beginning to think individually again.* The abyssal vantage-ground for mental communion lay behind us.

Giving my compass to Boaz, to whose care I had also entrusted the magnetic Atlas, and motioning him to keep back, I cautiously edged forward in a prone position, feeling my way until I reached a point where the slope literally fell away from my exploring hand. Then, with the utmost care, I backed my way up the incline to the waiting men and indicated to them by pantomime and a shrug of my shoulders what my findings had been and the probable fate of poor Barney.

Dejectedly we went back to the little plateau. The men gathered in knots, gesturing languidly as they realized that now we were without the capacity of either spoken or thought communication. Boaz, Halliday and myself assembled around the compass.

I had done the best I knew how. Now, as difficulties and obstacles came thicker and faster each instant, I confessed that I was at my wits' ends. Intelligible and full communication, as matters now stood, was next to impossible. We could not communicate by speech or by thought. Just when the faculty of image-projection left us it was of course impossible to say because actuated as we had been by a single purpose from the time we left the *Girondelle*, there had been no need for conferences; the undersea trek had been merely a matter of follow-the leader. Now only the language of gesture remained to us, all writing equipment had been left behind.

Laboriously I thought the situation out. We might continue further but only at the risk of passing our objective. Especially was this true in view of the erratic behaviour of the compass. If we scattered, leaving every man free to scout for the passage on his own initiative, then how, assuming one man found it, might the party be assembled again? If, on the other hand, we decided to carry on as a unit, our speed and mobility would be cut down. Then, when hunger and exhaustion overtook us, we should succumb without resistance.

As I saw it, the most effective utilization of our strength, in this last desperate emergency, would be to split up our forces into three equal bodies. I would command one, and Boaz and Halliday the other two. Then while two of us waited and rested on the plateau, the other, taking the compass, could reconnoitre as far as his strength permitted and return with his findings. The reconnaisance would be continued in the other direction by the commander of the second detail and so on until either we succeeded in finding the passage or death put a merciful end to our hopes and efforts.

This idea I managed, with some difficulty, to convey to the other two. I signalled with my finger in old international code, indicating dots and dashes by taps and scratches on the black sea floor, lifting my hand a few inches at the end of each word. This was hailed as an inspiration, which no doubt it was. Odd, how the most desperate needs sometimes give way to the simplest solutions!

The plan met with general agreement. Our company having been divided into three details, Halliday with his following left us to explore, somewhat further along the foot of the cliff, in a south-westerly direction. I went with him a little way, waved him Godspeed and turned back to rejoin my men. I came upon the plat just in time to witness the end of a quiet little tragedy whose beginning I had been too occupied to take note of.

My first inkling of something amiss was when a circle of men gathered about the burly figure of Dutch hurriedly scattered at my approach. Dutch alone stood fast, methodically scraping his axe upon an outcropping of rock. At his feet lay a huddled object which, as I drew closer, I recognized as the man who had been the occasion of Barney's loss. I stopped and stared down at it for a moment. As I did, Dutch turned and stood stolidly, his legs wide spread, his hands on his hips.

There was nothing I could say. What he had done was an act of justice as he saw it. I motioned him to take the body out of sight and, as he lifted it to his shoulder and moved toward the edge where Barney had so lately disappeared, I turned back to the business of plotting the direction of Boaz's detail.

Two hours passed before the first reconnaisance party returned to us, less one man whose overstrained nerves had given way to madness and who had turned his knife

upon himself. With vacant apathetic faces, staggering with hunger and weariness, the men threw themselves down and slept in a stupor of exhaustion. All Halliday had to report was an unbroken monotony of black cliff on the one hand, and the edge of the slope down which Barney had gone, on the other. They had advanced until another sheer drop had barred the way. From this Halliday inferred that we must have found our way along a kind of shelf that ended in the southwesterly direction, at the drop whose brink he had explored.

● It was now the second hour past noon but there in the shallower depths of the aquasphere, while the discomfort of the humid heat was greater, the light showed no sign of dimming. I rightly conjectured that here we might expect a somewhat longer day than the short eight hours of the abyssal plain. It was accordingly decided that Boaz was to venture out upon the second reconnaisance at once, returning the instant the light began to fail.

It was with mixed feelings that we watched him out of sight. We now knew that to the southwest there was no subterranean passage. We had already reconnoitered the ground that Boaz was now going over. There was little hope in our minds that he would find what we, with eyes sharpened by the love of life, had overlooked. It was simply a last, never-say-die gesture. As such, I think the most of us took it.

By the time he returned, darkness would be upon us again. In the morning, provided that we had physical strength, what was there left for me with the third reconnaisance party to explore? On the one hand rose the smooth black rock rising to what heights no one could tell. We might scale that until the torrid aquasphere of the higher levels became too hot to bear, then we should be back where we were before. On the other side dropped a smooth descent to—What? An inviting slide—smooth, sinister and enigmatic—the end of which lost itself in the baffling, opaque mistiness of the Da'Elin. Over the edge of it Barney had vanished; over the edge of it the body of his would-be killer had followed, propelled by the powerful shoulders of Dutch. In the damnable sound-inert medium they had vanished wraith-like.

We could not tell what lay over the brink, how deep it was by sound. And we had no ropes. Shirts and all superfluities of clothing had long since gone by the board in the interests of freedom of movement. It was only through courtesy to Diane that we wore anything at all. Shreds of trousers most of us still had, but many of these were too scanty to be trifled with in the interests of decency. There were belts, however.

I rose to my feet and staggered over to my sprawling command, requisitioning all belts and such strips of cloth as were not absolutely essential. Dully the men gave them up. With my spoils in my arms I returned to Diane who was by now a little rested, and together we tied strips of cloth and straps of leather end to end, until we had a fairly strong line about fifty feet long. Then, with my axe, I chipped a small piece of rock and tied it to one end.

Thus equipped, Halliday and I followed by the invaluable Dutch and Nucci, crept cautiously to the edge of the steep where, as the dangling end of a human chain, I managed to get a good deal farther over the brink than was altogether consistent with safety. From here, little by little, I began to pay out the line of my improvised lead.

At about six feet the line slackened and then in an instant grew taut again. I could tell from the feel that the stone was rolling down a steep slope. At ten feet it grew slack again and remained so.

This was more encouraging than I had dared hope. Now for the final test. I knew that there was a fairly level shelf about ten feet below our position. Whether that shelf was wide enough for men to drop down to remained to be seen.

I drew up the stone and cast it straight out so that it would begin to drop vertically about twelve feet out from the edge. Out and out coiled the line; down went the stone and with it my hopes. With a jerk the stone reached the end of its tether and then I felt the line go slack.

I pulled it in—that is, what remained of it. And, as I dully fingered a frayed end, I broke into a convulsion of silent hysterical laughter. My nerves were strung to the breaking point. What I thought of then, and mercifully, was not that my last hope of finding the path to the crater had gone, it was how fifteen good men and true of my command would keep their trousers on.

My ridiculous outburst lasted for only an instant; by the time the others had drawn me back to safety I was able to assume the semblance of a composure I was far from feeling. To be a rock-ribbed hero of fiction, who rises to every emergency with calm and adequate efficiency, is one thing but to be a human being with responsibility for the lives of others in a situation past flesh and blood's bearing, is quite another. When I had apprized my companions of the situation, by the dot and dash method, I returned to Diane's side, took her hand in mine and relapsed into a kind of stupid apathy.

It was now late afternoon, as nearly as we were able to judge, and the light had waned to such an extent that clear vision was difficult. I began to feel a dull disquietude for Boaz and his party. Dragging myself upright, I crossed the little plat to the other side where Halliday was sitting with the men. Three of these, I noticed in passing, were lying unnaturally still. I paused, swaying on my feet and examined them more closely. With the detachment of one in a dream I saw that two of them had stabbed themselves and the third had cut his throat.

"A good idea . . . a good idea . . ." I remember saying, over and over to myself, though I hardly understood the meaning of my own words. And then, the eerie world seemed to swim about me in my hunger and misery and weariness, and a blackness came before my eyes. I remember no more except the sense of falling an infinite, infinite distance.

CHAPTER XI
Out of the Depths

● When I came to myself, the undersea wilderness lay in pitchy darkness. Unconsciousness must have merged into sleep. In my heart I wished there had been no awakening. I wondered dully whether Boaz had returned and, if not, what had happened to him. I wondered whether the compass had led him in some hopelessly wrong direction, remembering that I had warned him it was not to be depended on.

My thoughts turned speculatively to the reason for

THE LAST OF THE SWARM

By HENRY E. LEMKE

● The pathway of progress in science is marked, as we know, with the blood and suffering of scientists. Some day, someone should write a book about the scientific spirit in men, that leads them to sacrifice family, comforts, health and life itself, in the pursuit of knowledge. And then there should be in the book a discussion of the scientists who have not only sacrificed for pure knowledge but also for the good of humanity, in a direct and practical sense.

This story is the epic of such a man, who knew no law except the law of humanity's advancement. It is typical of many cases, some in obscure laboratories, that have made possible our great achievements in biology, medicine, astronomy and physics.

● It was in the year 1972 A. D., just three years after the conclusion of the world-wide War of the Stratosphere, when Birdsley Ames lost his position as chief technician in the government laboratories for the promulgation of offensive war. The signing of the World Peace Pact, which entailed the complete destruction of all armaments and the discontinuance of military departments, worked a hardship not only on thousands of discharged soldiers, but upon scientists and mechanical experts whose lives had been devoted to the study of war.

As chief assistant in the laboratories of Birdsley Ames, I had considered it my duty to advise him against leaving the government service; there were other, though lesser, positions he might have had in peace-time departments. But Birdsley Ames had an obstinate streak in him, that brooked no amelioration when sufficiently agitated.

"They can take their petty test-tube jobs and give them to the apprentices," Ames told me the day he was notified. "I want to do some private investigating anyway, and there is no better time to start than now. Don't worry, James,—they'll have need for me again. This World Peace Pact may work very well among human beings, but there are other beings who do not respect the tenets of peace pacts. Man has yet to conquer certain members of the animal and insect kingdom; the arts of scientific warfare are going to be of use for a few centuries yet."

"If you leave the government service, then I leave with you," I promised, determinedly.

"You may come, James," he rejoined, somewhat gloomily, his big, black eyes misted with a rare sentiment, "but I warn you that you may not get your salary as regularly as you do now."

"Poof!" I exclaimed with all youth's disdain for material trifles. "It's learning I'm after, not money, and I couldn't find a better teacher in biochemistry."

And that was how I left Washington one sunny day in late May to take up my abode with Birdsley Ames at his little experimental station on the Kentucky banks of the Mississippi. Here, ekeing out a parsimonious existence on the special research jobs sent in occasionally by old friends in Washington, I toiled with Ames in his attempts to isolate a new element from uranium, an element which, if my master's theories were correct, would revolutionize the propulsion of rocket ships, and furnish mankind with a destructive force hitherto undreamed of.

We had worked in seclusion for two years when the first inkling of a new menace to the nation began to seep into the television news broadcasting. Since 1960 a peculiar condition in the southern seaboard states had been growing. Subsidence of the land, beyond all power to refill the new indentures, had been rapidly eating into the habitable areas. Inrushes of the sea, the flooding of lakes and rivers, and the creation of bottomless marshes had resulted in the steady migration of the southern population to more stable areas. The Everglades of Florida covered almost the entire state within ten years' time, and the swamps of South Carolina, Georgia, Louisiana and Alabama were extended to such vast proportions as to virtually eliminate these states from national sovereignty.

So gradual had been the disintegration of the southern seaboard, and so thorough had been the relief measures of the national government, that no panic had resulted. Efforts had repeatedly been made to ascertain the cause of the sinking land, and attempts to drain the swamps and dyke the land had been numerous. But the cause of the subsidence had proved beyond the knowledge of science; hollow stratas, miles down, were believed to be collapsing, and the most titanic projects of draining and dyking had to be abandoned, since the work of years could vanish beneath the slimy surface of swamp waters in an hour.

Such vast areas of stagnant water and marshy land could have but one inevitable result—a new order of reptile and insect life quickly developed, until the dreary expanses of bayou and reed field swarmed with snaky shapes and droned with insect clouds.

Residents of higher regions were untroubled, however, by the slow advance of the newly created jungle, until

reports began to be bandied about of a particularly venomous form of giant mosquito. The stories were laughed to scorn at first, so widely diverse were the reports; but as more and more encounters with the ravenous hordes were verified by trustworthy testimony, the alarming nature of this denizen of the Great Swamps was admitted.

● The creatures appeared not to be so numerous at first, but within a year after the first few had appeared, they were sighted again and again in swarms that darkened the sun. Growing too numerous to find sufficient sustenance in their swamp home, the huge insects flew out at sunset to the highland countries, alighting upon man and beast alike, to leave them a bloodless shell of bones and skin. Not so much for size and ferocity were they to be feared as for the peculiar numbing effects of the poison they excreted from their immense proboscides. Long before I ever saw one of the creatures, I learned that once they penetrated the skin with their needlelike snout, their victim was helpless to fight them off, a swift stupor overcoming him as the virus saturated his veins.

Luckily, my first experience with one of the giant mosquitoes that had come to infest the Great Swamp, found me prepared to do battle in the only safe way possible. I was fishing in a rowboat some distance from shore, and had with me a couple of good dip-nets. The first I knew anything dangerous was near was when I heard a loud humming sound, similar to that made by a rocket-ship, striking the first strata of atmosphere, with all power shut off. I looked up rather languidly, for I was drowsy and the river at sunset was a peaceful scene.

My languor quickly vanished. I caught the glint of wings in the slanting rays of the setting sun—wings large as a bird's, yet transparent—an insect's wings. I looked around me in alarm as the creature circled lazily overhead. There seemed to be only one and I was grateful. Reaching down cautiously, my eyes fixed on the giant mosquito, I took up one of the dip-nets and made ready.

I am satisfied, now, that the insect had been feeding with a swarm somewhere near, and that he was almost satiated with blood. His attack seemed curious rather than virulent. Sinking and soaring experimentally, the insect circled the boat, drawing nearer and nearer my head as I waited with the dip-net ready for business. The thing was at least four inches long, with a wingspread of half a foot, and the blood-sucking device appended, between the globular eyes, looked more like a pair of surgeon's forceps than an insect's beak.

Suddenly the insect dived for me and at the same instant I swung the net as one would to catch a butterfly. Both of us failed. The mosquito must have been struck by the frame of the net for it fell to the water as if stunned, and buzzed there several seconds before it again took flight.

I noted an angry note in the buzzing and a chill of fear coursed through me as the thing came back, in earnest this time. But I, too, was in earnest, my nerves attuned to steadiness in the knowledge that if I failed I might never awaken before the creature had brought its swarm to drink my blood.

Twice more I missed; I felt the rasp of wiry, dangling legs on my neck and ducked. Then, as the monster swooped back in a sharp curve, calculated, no doubt, to catch me with my head down, I gave the net a sharp twist and slammed it down to the flat bottom of the boat. I thought for a moment that the wild antics of the imprisoned insect would break the strong strands of the net, but the cords held, and presently my captive was silent, his baleful marble-sized eyes glaring up at me morosely.

I wiped beads of perspiration from my forehead and placed a piece of pig-iron, that I used as an anchor, over the frame of the net, forcing the captive back into the tip of the net. Even in the aftermath of that dread battle with a demon of the air, I retained sufficient presence of mind not to kill the thing. The habits of the observing scientist had overcome my primal emotions Birdsley Ames would be interested in this specimen.

After carefully conning the air to assure myself that no other insects were near, I started the tiny outboard motor (the oars I used merely for physical exercise) and sped in toward our boat landing. A few minutes later, after transferring my captive to a screen cage that once had served as a fly trap, I panted into Birdsley's laboratory.

"Look here!" I cried.

Birdsley took the trap and looked at the ferocious creature imprisoned there. For several seconds he said nothing, then in the solemn tones of a vindicated prophet, he said:

"First blood, James. This is a scout for an enemy that doesn't respect peace pacts and moral tenets."

"But what are we to do?" I despaired. "There are others; there's no telling when—"

"I know, I know," Birdsley interrupted somewhat impatiently. "From now on we'd best wear heavy nets when we go outside—nets in stiff wire frames. And we're going to get more specimens like this. Be on the lookout for a swarm. We're not going to move from this laboratory until the nation calls us, but I'm thinking that won't be long. They are about to find out that war departments may be used for other than human enemies."

The Winged Menace

● In the ensuing weeks, the television news bore evidence that Birdsley Ames knew whereof he spoke. Swarm after swarm of the giant blood-suckers were reported. Whole villages were put to flight and large cities on the borderland of the Great Swamp were put on the defensive. No one knew when the swarms would fly, nor where they would strike next. Rocket ship patrols sent out by the government, were eluded time and again, while men and beasts by the score were struck down by the fiendish hordes. And when a swarm was encountered by a patrol, the usual weapons were futile; the giant mosquitoes merely scattered and reunited at some distant spot; a paltry few destroyed by death-rays and gaseous explosives.

Steps were taken to defeat the insects in their breeding grounds. A fleet of rocket ships, armed with huge oil sprays, flew over the Great Swamp, drenching the vast lakes and bayous with oil, all to no avail. Birdsley told me why in a few words: "The larvae are too large for the oil film to affect them. Only microscopical larvae are affected by the oil film on the top of the water It would take an oil film an eighth of an inch thick to kill the larvae of these monsters."

After several million gallons of oil had been strewn over the vastitude of the Great Swamp, these fruitless tactics were at last abandoned, and the government laboratories forced to admit that they could not stem the tide of carnage that was steadily rising as the insect hordes increased in number and ferocity. A third of the nation were now wearing specially designed nets, not only on the ground, but in the air, where swarms were known frequently to attack passenger planes and single-seated autogyros.

In desperation the government department, specially created for combating the insect hordes, attempted to use poison gas. The plan was kept a secret from all save those having inside knowledge available. By night, a fleet of rocket ships, bearing tanks of poison gas, flew over the Great Swamp in deployed formation. Great clouds of gas formed over the marshes in their wake. Two days later a general northerly movement of the air currents bore the gas clouds into the thickly populated areas and thousands died as the deadly vapors swept back and forth over the land.

"A fool's move," Birdsley Ames swore under his breath when reports of the disaster came in. "There's not enough gas in the world to cover half that marsh. And if they destroyed every adult insect, the larvae would hatch a few days later, after the gas had scattered."

It was after the gas tragedy that Birdsley Ames sent a radio message to Washington, comprised of this simple, yet eloquent sentence: "I am ready to resume operations as chief technician whenever you need me. Birdsley Ames."

But the politicians were stubborn. They would not admit defeat as long as they could quiet the public with euphemisms. Meanwhile Birdsley worked in his laboratory. He obtained specimens from all over the country —adult mosquitoes, half grown, infants, larvae, eggs. A fragment of a swarm visited us on the river bank and behind our impregnable nets we caught a large number of specimens. On these Birdsley and I set to work, isolating the virus, dissecting, trying out various specially concocted insecticides.

To me the hideous creatures seemed invulnerable. They reminded me of werewolves in the tenacity with which they clung to life. Then Birdsley struck a lead with some experiment which he had not confided to me. He locked himself away in his inner sanctum, and I was left outside, to fill orders for chemicals, prepare and serve him his food and drink and in general act as combined private secretary, valet and Boswell. What he was up to I could not fathom, but I knew we were on the verge of something startling; the symptoms were the same as had preceded many a miraculous discovery during the past wars.

Two months after Birdsley had radioed Washington his willingness to lend his genius to the need of humanity, three swarms of the giant insects flew out of the clouds upon the city of Chicago, farther inland than they ever had been before. The carnage wrought in six hours of fearful chaos was unspeakable.

Nothing could be done. Thousands were caught without nets in that supposedly immune region, and they died a horrible death, covered with an avid mass of bloated bellies and deadly stings. And when nets were brought in a special fleet of rocket ships from the government factories, blood-mad swarms set upon the coverings in such masses that the nets were broken through again and again.

Homes and office buildings became infested with the monsters, who worked their way through every opening. When the swarms at last took to the air they left two hundred thousand dead and dying in their wake, untold other thousands suffering from incisions that would disfigure them for life. It was the last straw. Even the pride of politicians had to succumb, and Birdsley Ames at last received an answer to his generous message.

"The entire resources of the United Republic are at your command," read the radiogram from the President's office. "Come at once for your country needs you."

● Birdsley did not engage in any dramatics. He merely read the message with a faint smile on his preoccupied looking countenance, and set to work on some figures. When, an hour later, he gave me a radiogram to send in reply to the President's message, I was surprised at the nature of his response. He merely ordered one rocket ship, outfitted as he lucidly explained and listed. Then, as if nothing had happened to break the routine, he returned to work in his private laboratory.

Three days later the rocket ship landed in charge of a specially selected government crew. Birdsley came out, and while I followed with a notebook, he carefully inspected the ship and the laboratories that had been installed at his orders. A few changes were noted, but these were quickly made with supplies and tools from our own laboratories, and a day later Birdsley gave orders to the pilot.

As the great gyro propellers bore us into the rarefied air strata, I gazed out of a thick conning port at the receding environs of our river-side laboratory, wondering what the future would bring. I was as ignorant as the crew was of our flying orders; only Birdsley Ames and the pilot knew our course and destination.

High above the clouds, where the sun burned like a baleful eye on a black curtain, spangled with stars, the rocket tubes were fired and we shot southward, straight into the devastated country and the hatching grounds of the giant insects. Through the viewscopes we began to sight deserted farms, towns, whole cities.

Several swarms of the enemy were seen before we had gone five hundred miles, all flying in the upper reaches of the atmosphere, looking for a place to swoop down and feast upon the blood of unsuspecting prey. It was Birdsley's theory that, while the monsters had extraordinary visual powers with their huge optical organs, they did not really see their prey before they attacked.

Like vultures, he reasoned, they used scouts, probably extending in a long line at various altitudes, reaching from the swarm to a height from which the terrain was readily visible. The lone insect I had captured on the Mississippi had been a lowermost scout, Birdsley had believed. Doubtless, had I not captured the fellow, he would have brought the swarm upon us that day.

At last we crossed the borderland of the vast marshes of the sunken southern states, and the swarms grew more numerous. At times the whole nadir seemed a moving mass, so numerous were the thirsty insects, which observation had previously revealed, had well nigh ex-

terminated all life save themselves in the Great Swamp. Even numerous alligators had been found dead and bloodless in the patches of long, dense grass, caught before they could get into deep water.

Birdsley gave the order for lower altitude, and we swooped down into the swarms, safe behind the armored walls of the rocket ship. Now and again, great clouds of the creatures settled on us as we settled, the movement of the ship decidedly retarded by their weight. But occasional rocket blasts were sufficient to clear the wings and body fairly well, and we were not greatly hampered in our main course, which was directly across the heart of the swamp country.

In a specially constructed trap that extended from the floor of the rocket ship, Birdsley caught large numbers of the insects, to imprison them in marked cages in the laboratory. Again and again, at different points, as the ship shot on through the highest of the swarms, Birdsley took specimens of the creatures. By night we had a whole cargo of the giant mosquitoes, all humming and buzzing in their prisons, glaring venomously at us through the heavy screens, which they occasionally attacked with their powerful proboscides.

It was midnight when we landed on a large island of dry land in what once had been South Carolina, but now was a wilderness of rank grass and shallow, stagnant lakes, some tainted with salt water where the sea had broken in over the sinking land. Immediately upon settling to the ground, when the rocket tubes were silenced, a vast number of the gigantic insects flew down and alighted on us, keeping up an incessant roaring of wings and scratching and pecking with their fearful beaks.

Through it all Birdsley Ames worked calmly, not stopping for sleep, and before morning I and all the laboratory assistants were routed out of our hammocks. We were immediately ordered to the dangerous business of taking the live specimens out of the cages and bringing them to Birdsley. While we held them, he dipped a pinpointed instrument into a tube of reddish, jellylike compound, various samples of which I had noted during his experiments.

Just under the wing joints, where they are attached to the thorax, he scratched the insects lightly, whereupon we were directed to release them through the same trap whence they had been procured. Those treated immediatedy joined the swarms that incessantly beset us, where they seemed to renew their ferocious activities with unabated vigor.

Victorious!

● All morning we toiled, scarcely a word spoken, for we knew better than to question Birdsley Ames while that grim, relentless expression hardened his dark, inscrutable face. Two of the assistants were stung before the cages were emptied, taking to their hammocks under special medical attention until they recovered from the stupefying effects of the dread virus exuded by the monster Anopheles.

At last Birdsley rested. For three hours he slept like a child while all annoying noises were kept down inside the ship, and only the ceaseless droning of the hordes outside could be heard, a fearful lullaby that drove some of us to distraction.

Near noon Birdsley awakened and orders for flight were immediately delivered to the pilot. Again we took to the air amid the angry swarms of the enemy. Again we crossed the great marshes of sunken land, taking in specimens through the trap, until once more the cages were filled. Again we landed on an isolated plot of firm ground, this time in what once had been the state of Alabama. Once more we carried the living specimens under the inoculating knife of the master of proceedings.

To us it was all an experiment in which I alone had faith; the other assistants held (in conversations that did not reach Birdsley's ears) that no form of inoculation would have appreciable effect upon the swarms. Everything had been tried, they declared. A special bacteria would need to be evolved by the monsters themselves if they were to be exterminated in this manner.

Days lengthened into weeks while we cruised the Great Swamp, filling the specimen cages through the trap and emptying them again after Birdsley's operations. None but he was allowed to handle the knife, and the reddish, jellylike substance in the test-tubes was kept under lock and key when Birdsley, himself, was not standing over it with that repelling look upon his face.

Frantic messages were radioed and televised from Washington—to be ignored by Birdsley. Again and again the swarms had fallen upon the cities of the north, to leave chaos and death and suffering in their wake.

The crew and some of the assistants, tried and true men though they were, began to mutter among themselves concerning Birdsley Ames' sanity. I, too, became worried for all my faith, and reacted to the maddening monotony of that deadly droning and hammering on the plates of the rocket ship. . . And then, when I feared mutiny, there came the first favorable results of our long flight over the swamp country.

We noted no diminution in the swarms, but upon landing from an extensive cruise over the marshes, we discovered several huge masses of the giant proboscideans piled about us. Many of the creatures seemed completely stupefied, while others crawled about with dragging legs and wings feebly fluttering as they strove to take wing. Upon securing some of the inert specimens by devious manipulations of the ship and the trap, we found life almost extinct.

After he had examined several of these stupefied specimens, Birdsley ordered a day's rest. I slept ten hours, and when I at last awakened several of my fellows were still asleep. Others were gathered about the conning ports, talking excitedly. Birdsley was quietly at work in his laboratory, preparing more of the compound with which he had inoculated so many of the insects.

Crowding up to a port, I saw what had gripped the attention of the crew and the technicians. The drone of insects had almost ceased outside. Here and there a few flew lazily about, barely keeping the air. And around the ship, on every bunch of land, on every stagnant lake and bayou, lay thousands upon thousands of the giant mosquitoes, massed like bees in swarming season. And from the talk bandied about I knew that this was no mere stupefaction. The insects were dead, stone dead, and the few that still could fly were dying. Birdsley Ames had won.

I started for the laboratory to congratulate him, my heart filled with adulation and affection. Then I stopped

as I saw a sign over the oval, steel-framed door: "Positively No Admittance." I stood still, looking long at Birdsley, hoping to catch his eyes. But he did not look at me save with a cool, expressionless glance. Evidently the fight was not over.

Later, that day, we cruised again over the Great Swamp, on a tour of inspection. There were no more swarms. In fact, not one of the creatures was sighted in the higher altitudes. Before night we had trouble in sighting any of them alive, and upon diving close to the surface of the marshland, we observed heap after heap of inert bodies. Mankind had indeed won a victory, and my only sorrow was that Birdsley Ames would not receive the congratulations that were his due.

Observation patrols had carried the news to Washington and to all the nation. Radio messages were coming in continually and our operator was overworked with messages of gratitude as a nation and a world paid due honor to the man who had rescued it from a fearful menace. Yet, through it all, Birdsley Ames made no response, nor would he read one of the messages that flooded in. Finally he locked his laboratory door and what brief instructions he gave came through the speaking tube.

● For seven days we lay on that solitary bight of land in southern Georgia, replying desultorily to the messages from all over the nation and half the world. All our operator could say was that Birdsley Ames was still locked in his laboratory.

The last of the insects disappeared. A generation of young were hatched, and a few took flight from the larvaeal stage, but not for long. Soon, even these young ones disappeared, and repeated tests of the water during a short cruise over the marshes, revealed no living larvae.

Again we landed on an island of firm ground and again we waited for orders from Birdsley Ames. But he did not show himself and his door remained locked. What little food he ate was passed to him through a pneumatic tube in a huge carrier cartridge. And though we all grew restless, there was no talk of mutiny or disobedience to orders. After Birdsley's success there was not one of the crew who would not have willingly died for his commander.

It was precisely two months after the first dead insects had been found that Birdsley Ames gave orders for flight. No destination was given. We must merely reach an altitude of five miles and hold a course due west over the marshes. The orders were carried out to the letter, and I think we had been in the rarefied air stratum for about ten minutes when a package of sealed orders was sent through the pneumatic tube from Birdsley's compartment. As the pilot read, his face grew pale. I never saw such a ghastly expression on the face of a man. He seemed unable to act for several minutes, and when he did, it was to stagger like one drunken, over to the engineer's post.

"Land on the first solid ground you see, Burton. There's hell to pay!"

A funereal hush had seized upon all, long before the ship settled gently to a fragment of a plateau in northern Mississippi. We gathered around the pilot in the control room, and watched his tremulous hand unfold the closely written pages that were Birdsley Ames' sealed orders.

"Part of these orders obliges me to read them to every member of this expedition. The text of them is self-explanatory." And while he read we stood like men bolted to the floor, our faces revealing the paralyzing shock which the words of that immortal message conveyed:

"To the crew and my staff:

The serum which I used in inoculating the monster ANOPHELES CULICIDAE *is absolutely fatal to mankind. Having myself become inoculated with it during the infection of the insects, I am eliminating myself as a probable menace to humanity. When you open this message I shall have leaped from the emergency air-lock in my compartment, after carefully destroying the last vestiges of the serum. A timed capsule of* TYROLUENE, *the strongest known disinfectant gas, will have opened in my wake, purifying the laboratory.*

These last weeks of inactivity have proved that I am the only one of the expedition who has been inoculated, and therefore I release you from quarantine, wishing you every happiness in your return to civilisation.

B. Ames, Commander-in-Chief."

There was nothing said for many minutes after the reading of that tragic, heroic message. We waited half an hour for the *tyroluene* to act thoroughly in the closed, air-tight laboratory, then we drew off the gas through a suction conduit connected with the pneumatic air tube. Entering the laboratory as men enter a sacred tomb, we found it stripped clean of apparatus and chemicals. A taint of the stifling tyroluene still remained, but all else had gone through the open air-lock in the floor of the compartment.

We tried to visualize, at least I did, how he looked when last of all he had plunged to his death from the airlock. But the vision could not be conjured. A soldier of science he had lived and died, and his last battle had not been merely for nations, but for all mankind.

THE END

Can Man Change Climate?

●SCIENCE FICTION writers picture the disastrous effects of changing climate on the earth in a few thousand years; the surprising effects of climate on the inhabitants of other planets, and their visitors. The history of mankind has been created by the changes of the earth's climate over the past few thousand years. While we have invented coverings and shelters to protect ourselves against the seasonal variation of the weather, the march of climate has been irresistible. It has created civilizations and destroyed them. Can Man assert himself, and change the climate? A thought-provoking article—one of many in the September issue of

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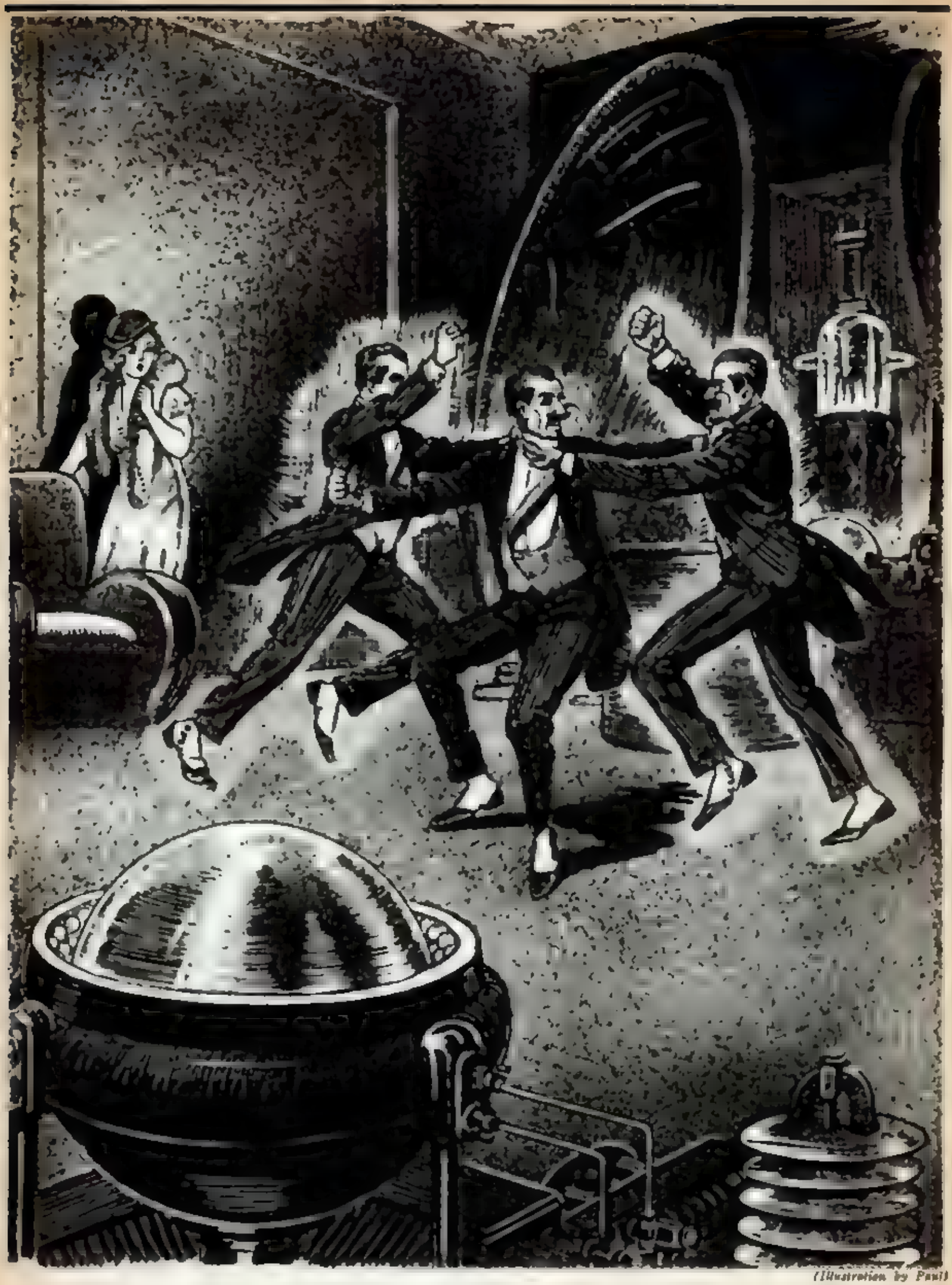

(Illustration by Paul)

The three Saint-Imiers were fighting among themselves with extraordinary violence. The Marquis was like a man fighting his own image in a mirror.

THE RADIO TERROR

By EUGENE THEBAULT

Translated from the French by
Fletcher Pratt

● This exciting and thrilling tale comes to its end with this installment. No doubt there will be some things presented by the author that our readers will dispute from a scientific standpoint. We are willing to concede that. Yet the author's "creations" were so much a part of the story that we decided that they should remain, even though they aroused criticism.

Certainly it is true, that when we learn more about the nature of light, as well as other vibratory effects, much that appears now magical may become commonplace. And although the French scientist's "creations" may not be duplicated in real life, they do offer an interesting possibility for our readers to speculate upon.

WHAT HAS GONE BEFORE

● Parisians listening to a public loudspeaker in October, 1952, suddenly hear a voice from the loudspeaker threatening to extinguish all earthly life. It announces that in ten minutes the sun will disappear and a glacial cold will follow. Everyone takes this humorously.

In accordance with the warning, the sun begins to darken and the cold begins. Paris is panic-stricken. Gribal, an engineer, has just come to the laboratory of M. Mazelier, a famous scientist, when the darkness and cold descend. They find that matches will not light. Mazelier gives Gribal a helium lamp which lights, while Mazelier tries to detect the source of the power that is causing the terrible phenomena. Mazelier is confident that some powerful man, an enemy of the race, is actually at work.

Gribal goes home to join his family, finding his way with the helium lamp. His wife and two children, Paulette and Roger, are panic-stricken. But soon there comes a lifting of the darkness and cold.

But as they look out of the window they seem to see Paris afire. Mazelier comes to see them and tells them that the flames are only an illusion caused by the same person who controlled the darkness and cold. As the two men go down the deserted streets a car draws up to a curb, a man jumps out, and then seeing the two men jumps back again and drives off.

The two men remark on this as well as the fact that the chauffeur appeared to be a Chinaman. Returning to Mazelier's laboratory the men find that the source of the radiations causing all the trouble came from an aristocratic house in the Rue Cortambert. A young workman named Duplay visits Mazelier and tells him he recognized the voice in the loudspeaker as that of the Marquis de Saint-Imier for whom he had done some work. Saint-Imier lives in the Rue Cortambert. Going to the Rue Cortambert the two scientists see a car also driven by a Chinese go to the marquis' house.

Gribal's daughter, Paulette, a science student, goes to a reception of the Minister of Science and there meets Marquis de Saint-Imier. She also recognizes his voice as that of the man who promised destruction to the world. Paulette inadvertently reveals that her father and Mazelier had a helium lamp that defied the darkness. Gribal enters the room to hear his daughter's name linked with that of Marquis de Saint-Imier.

Mazelier explains to Gribal that Paris was saved because he opposed Saint-Imier's radiations with emissions of his own. Meanwhile Gribal's maid, Suzie, has disappeared. Gribal finds some of his plans missing and concludes that the "trusted maid" has stolen them. Mazelier's office has been invaded by a Chinaman and some of his apparatus destroyed. Attempts are made on the life of Mazelier and Gribal, and they realize that they must fight Saint-Imier with his own weapons. When Paulette, Gribal's daughter, is run down by Saint-Imier's car and almost killed, the two men vow to destroy the aristocratic scientist.

They disguise themselves in a cafe opposite the marquis' home, they learn of his intentions to go to a distant city by motor that evening. When the time arrives, the two men operating a long-distance control apparatus upset Saint-Imier's car and nearly kill him, although he is fifty kilometers from Paris.

Mme. Ghislaine Roberval, who has spurned the attentions of Saint-Imier, and her fiance, Gabriel de Neuville decide to leave Paris. But the train on which they are to go cannot leave the town. Then it is discovered that a wall of force is around the city and although trains can enter nothing can leave.

The people of Paris now hear over their loudspeakers a voice announcing the doom of the city within eight days unless two men are turned over to him. But each time the voice tries to pronounce the two names, something stops him. Mazelier admits to his assistant, Gribal, that it was he who shut off the threatening voice of Saint-Imier. The two men leave to visit the President of the Republic, and on the street Gribal is struck down.

NOW GO ON WITH THE STORY

CHAPTER XV
The House of Silence

● Paulette, like everyone else, had heard the new series of threats addressed to the people of Paris who had been guilty of incredulity in the face of the approaching destruction of the world. But this time, Roger's little jokes brought no smile to her lips. She understood the full significance of these threats, which left her mother so indifferent. After all, why should the good woman pay any attention to words which had no special significance for her?

And Paulette had been careful not to say:

"But it is father and M. Mazelier whose deaths are demanded."

It would have uselessly frightened her mother and her brother. But the young girl's agony was all the greater because she had to conceal it.

And who could the woman be that the marquis threatened at the same time? Paulette imagined that it might be herself. The marquis must hate her because he had tried to assassinate her.

And thus, the girl had two good reasons for silence.

But, though waiting for her father's return, she refused to go to bed, overwhelmed with anxiety. It was even with some annoyance that she listened to the chatter of her brother, who rattled along:

"Isn't that amusing? There's a story for you. He's going to stop the trains, the airplanes and the ships. Pretty smart, that fellow. I'd like to know how he does it? I'll get it, though, and soon. I'm working on it like anything. I've been studying radiology, magnetism, chemistry and electricity. I'll get beyond you one of these days. And then, you watch what I do!"

Roger was not really indulging in useless boasts. As he said, he was working "like anything" and making genuine progress; and Paulette was watching him with not a little envy, for she was making no progress at all.

Since the afternoon, when Duplay had drawn her from the jaws of death, Paulette had not once seen him. The young man seemed bent on avoiding her. What a bashful youth! He was actually afraid to hear gratitude expressed in a harmonious voice accompanied with a charming smile and a glance from a pair of eyes filled with good wishes and sympathy.

To see him again would have been a real pleasure to Paulette. She searched for reasons to explain his overdiscretion and finally found only one that satisfied her:

"He's afraid that I'll keep him from working," she told herself.

And then she scolded herself.

"But why should I worry about it. He's not accountable to me for his actions. I hope he's not sick, but if he isn't, then it's none of my affair."

She forced herself not to think about him, and thought she was succeeding. But Mme. Gribal, worried at her uneasiness, kept asking her:

"Don't you think it's queer that your father hasn't come home yet?"

"No, mother. You know very well that father and M. Mazelier were to work late tonight."

"Yes, that idiot on the loudspeaker again. But when your father has to work late, he always sends some message. And he hasn't sent any. *Mon Dieu!* I hope—"

"No, no, mother," Paulette hastened to say, though she herself was still more worried.

At midnight, Mme. Gribal could no longer restrain herself.

"I'm going to the office," she declared. "You wait for me here."

Paulette replied:

"Mother, let Roger and me go with you."

"But if your father comes while we are out? He will be worried about all of us."

"I'll leave a note for him, on the table here. He can see it right away."

Paulette got a piece of paper and wrote on it: "Father, we have gone to the office to look for you. We'll be right back."

"There! He'll understand when he sees that. Are you coming, mother?"

The girl hurried into her wraps.

Roger asked: "Are you going to take a taxi?"

"Yes, yes," said the worried mother. "Come on, let's go. Hurry up, please!"

Three minutes later she was knocking at the door of Father Bibent's lodge.

"What are you doing here, Mme. Gribal?"

Her face showed so much worry and strain that he added: "What's the matter? Has something happened?"

"My husband has not come home. Is he still here?"

"I believe so. . . . But certainly, madame. I haven't seen either one of the gentlemen go out."

"Will you tell him I'm waiting for him here?"

"Right away, Mme. Gribal. But you know, M. Mazelier and he have stayed shut up in their laboratory all day long. I had some letters to take up, and when I knocked at the door no one answered. I think they didn't want to be disturbed."

● Paulette was about to say: "You see, mother. They are busy."

But Mme. Gribal, at the limit of her patience, would no longer listen to anything. She ordered: "Go on up. Knock until they open up. And if necessary, break in the door!"

Father Bibent was scandalized, but did not let it be seen. He went up the stairs as fast as his old legs would carry him. Five minutes went by—five centuries!

Father Bibent came back down. He was alone.

"I knocked and shouted," he explained, "but no one answered. I don't think there's anyone there."

Mme. Gribal felt her knees giving way beneath her. Paulette had more courage; her father had repeated to her many times that she was never, under any circumstances, to lose her coolness of head. Neither fear, nor despair nor pain, could prevent her brain from registering impressions, from reasoning, unless deprived of her senses.

"But you say that you haven't seen them go out!" cried the girl. "Then they must be in."

Afraid there would be a scandal, Father Bibent lost his head completely.

"But look," he babbled, "I haven't left my lodge."

"Think. You are certain? You haven't left your lodge for a moment, and you haven't seen anybody asking for M. Mazelier or my father?"

"Oh, on that point, I'm certain, mademoiselle. Nobody has asked for them."

"Then they must still be up there," repeated Paulette. "I'm going up to see for myself."

Father Bibent thought it over. All at once he struck his forehead with his hand, and said:

"But how stupid I have been! I was out three times during the day. Oh, not for a long time—a minute or two. Listen, madame, the last time was not twenty minutes ago, possibly fifteen. Am I crazy or losing my memory? I went down to the corner of the Rue de Marignan for some tobacco. Just long enough to go there and back. Mademoiselle, it must have been then that they went out. Look, madame, it could not be otherwise. For, as to being up there, they aren't. I made enough noise to wake the dead. They must be out."

Like a faithful echo Roger repeated: "Evidently. They must have gone out."

Paulette, somewhat more at ease, added: "See. Everything is explained now."

Father Bibent went on: "Madame, you must have missed your husband on the way. At the same moment you were coming to look for him, he went to find you."

"Let's go quickly, mother."

Thus brought back to hope, Mme. Gribel permitted her children to lead her along. Moreover, the *concierge's* explanation was not impossible. And for that matter, in a few moments it would be decided.

As the taxi drew up at the door Paulette leaped out,

leaving Roger the duty of accompanying their mother. She climbed rapidly up the stairs. Then she rang, hoping her father would open the door. But the door did not open. Paulette had to get out her key to get in.

In the entry she called: "Father! Here we are!"

No answer.

"Are you there, father?"

Paulette hurried through the dining room, her father's office, the bedroom, her own room and that of Roger.

Nobody! All the rooms were empty.

Mme. Gribal and her son came in. When she looked at Paulette, it was unnecessary to ask a single question; she understood without words. Incapable of keeping up any longer, she gave one feeble cry and fainted.

Paulette perceived that it is sometimes difficult to keep one's head cool. A single sentence danced through her brain, "Father has not come home!" For a moment, she stood overwhelmed, inert, filled only with an immense distress. But the sight of her mother, flat on the floor before her, brought her back to her senses, and she bent to help her.

From her bedroom she brought the smelling salts, a carafe of water. What did one do? Paulette hesitated for a second, and then held the salts under her mother's nose.

After a moment, she opened her eyes and began to move uneasily.

"Get some pillows!" called Paulette.

Roger hurried off to do it.

"Help me lift mother up. Good. Mother, mother! Are you comfortable now, mother? Do you hear me?"

Paulette, by a kind of instinct, knew that she must distract her mother's attention by an excess of words. But her mother had not quite come out of her faint; she was in a state of semi-consciousness in which she certainly did not understand the words her daughter was pronouncing so rapidly.

But Paulette, while continuing her chatter, found time to whisper over her shoulder to Roger: "Quick! Bring a doctor."

The boy did not even wait to put on a cap. He leaped for the door with the intention of racing down the four flights even more rapidly than he had descended them that morning, when he had slid down the bannister.

But, having made a single bound, he came to a full stop before the door.

Paulette, surprised and angry, called to him: "Hurry up, you little fool! What are you waiting for?"

"Listen. Someone's coming up. They're right here."

"Mon Dieu!" cried Paulette. "Ringing our bell!"

● Through her head flashed the thought:

"If it were father he would come in without ringing."

She had not the strength to go to the door, but she braced herself for a shock. Only a bearer of ill news would call at so late an hour.

Roger had opened for the visitor. Paulette looked at her mother; Mme. Gribal had heard the bell. She too, her hands joined and tense, awaited the blow of fate.

With a step that had an appearance of firmness she got to her feet and advanced toward the entry. Why didn't the visitor come in quicker? What was he saying to Roger? She wished to know, and at once.

At this moment, the visitor, accompanied by Roger, came into the dining room. Paulette gave an exclamation of surprise that was almost joyous. It was Roland Duplay!

"You!" she cried.

Then, suddenly, she was in confusion, hardly daring to lift her eyes. Roland placed a finger on his lips and held out a slip of paper, indicating that she was to read it before speaking.

Paulette read: "I have come on a mission for M. Gribal. But, on your life, don't say a single word about it, aloud."

Paulette passed the paper to her mother. The unhappy woman, at the end of her strength, lacked neither courage nor hope.

She glanced at the young man in a way that said more plainly than in words: "You have come from my husband. Is he dead or alive?"

Roland looked back at Mme. Gribal and his severe face relaxed in a smile; the first Paulette had ever seen on his face.

He took back the slip of paper and wrote upon it: "M. Gribal is now out of danger. He is waiting for you. I have a letter from him to give."

And Paulette wrote at the bottom of the paper:

"Mother, M. Duplay is all right. You can rely on him."

The young man pulled from his pocket an envelope, which he tendered to Mme. Gribal at the same moment that Paulette passed her the paper, with the news concerning her husband.

Roger understood nothing of this singular scene. Why did everyone write notes instead of speaking? But as his mother and sister observed the same silence as their visitor, he imitated them.

Mme. Gribal, meanwhile, was reading the letter from her husband:

"My dear wife and beloved children:

"I have just escaped from a terrible danger, but don't be worried, I am safe now. The danger threatens you, however, as long as you remain in the apartment. Fly, fly immediately. Don't wait to take a single thing with you. Follow the bearer of this letter; he will bring you to me. Don't speak to a living soul. I beg you, fly. In two hours we will be together again. Gribal."

No doubt possible; it was the handwriting, the signature of the engineer. Nevertheless, Mme. Gribal, happy though she was, over the assurance of her husband's safety, was a trifle suspicious. Fly—but why? Immediately—but what about money? And where? And how would they go?

Ah, what a lot of questions remained undecided. But with Paulette it was otherwise. All worry disappeared, she felt almost joyous, as though she were already beyond all alarms and peril. What had already happened had been only the expected. As to what would happen in the future, she felt only that once the family was reunited they would be invincible. And moreover, Roland Duplay, once before her savior, was at hand.

She had become so habituated to the idea of miracles, among the extraordinary events through which they had been passing, that the appearance of the young man, at this time and place, seemed altogether natural. And as her father's wishes accorded exactly with her own, she had only to obey without discussion.

As soon as the fugitives had left the apartment, Paulette closed the door noiselessly. The *concierge* let them out without being spoken to, and there remained only the people who lived on the floor below, who must have thought they were going to the theatre rather late in the evening.

In the Rue Boissy d'Anglas, Duplay silently motioned for them to follow him. He led the way up the street, almost to the Madeleine, turned into a covered passage at the left, and came out on the Rue Faubourg St. Honoré. There, a powerful car was drawn up at the curb. The young man opened the door.

"Get in, mother," whispered Paulette.

Mme. Gribal thought she must be dreaming. To bolster up her courage she repeated to herself the words her husband had written, "In two hours we will be together again." Two hours in an auto—at least seventy-five miles. She got in. Roger and Paulette took their places beside her. The girl left the door open, thinking that Duplay would join them.

"But where is the chauffeur?" asked Roger, forgetting the injunction to silence.

Mme. Gribal understood no better than her son what danger there could be in speaking aloud a few feet from the Rue Royale. Roger's question seemed to have something in it; she glanced at Paulette.

She, who looked at the door with something like regret, silently indicated Duplay, who had installed himself at the wheel.

The sight left her a little thoughtful, for Roland could hardly have a very clear notion of the right way of piloting a 100 HP car.

● Nevertheless, everything went well. Duplay apparently knew the geography of Paris to perfection, for with singular accuracy, he followed all the least frequented streets, and those where there were the fewest incumbrances. He conducted them thus to the Place des Ternes, turned to the right, ran along the length of the exterior boulevards and arrived at the port de la Chapelle.

By this time Paulette was certain that the wheel was in experienced hands.

But he stopped a hundred yards from the octroi. What was there to stop them there? Roger, with his cap pulled down over his eyes, stuck his head out for a peek.

"Traffic jam," he whispered.

Fifty or more vehicles, with more coming up every moment, waited, silently. Paulette understood. Roland had run into that unknown force which was blockading all the Parisians in Paris.

But, what now? For Paulette recognized that this second blockade could very well have been established to keep the car, for which Gribal was waiting somewhere outside in Paris. She understood that the injunction to silence had not been imposed upon them without some reason. And Roger had twice broken it, and her mother, who sighed out her impatience and renewed fear in a series of gasps.

She glanced at Duplay. He turned at the same moment, met her eyes, and gave her a nod which signified. "Don't worry."

Then, while the rest of the lineup made a terrific hubbub with their horns and voices, he descended from the driver's seat to draw down all the curtains that seemed to be made of leather, and were placed outside the car

In the interior the darkness was complete. Mme. Gribal was the prey of terrors. She would not have hesitated to leap from the car and return to the Rue Boissy d'Anglas had she not held her husband's letter firmly clutched in her hand. As to Roger, he would certainly have made a racket if his sister had not suddenly placed her hand over his mouth.

But neither the fright of the mother nor the annoyance of the son were of long duration. The interior of the auto was lit with a strange and feeble luminescence, sufficient for the occupants, but not enough to pierce the outside curtains. At the same moment there came a terrific racket outside, the sound of many voices.

"At last! Not too soon, I'll say."

"Let's go."

"It was a joke."

"Farewell, dear heart. I'm off for the country."

"Hey, everybody! Good-bye and thanks."

Shouts of all kinds came from the chauffeurs of the vehicles in the line ahead of that which held the Gribal family. They felt the car slowly getting into motion, following the others which were crossing the barrier.

But to their profound surprise, it seemed to Roger and Paulette, that cries of rage and imprecations were coming from the drivers of the cars behind them, and then from the drivers of those which were all about.

Had they not moved after all? It sounded as though a hole in the invisible curtain had opened before Roland to shut down again immediately behind him.

But the auto began to travel with a velocity that gave Mme. Gribal the sensation that they had left the earth and were flying. Then they gradually slowed up; the pale light went out suddenly, the auto stopped; the leather curtains went up again, and a voice pronounced the following delightful words in the midst of the peaceful night:

"Madame, we are safe, and we will arrive in ten minutes. You can speak as loud as you wish now."

Roger profited by the permission to say: "Don't let anything keep you from going as fast as you like. Speed is very agreeable to me."

CHAPTER XVI

An Audience with the President

● Ghislaine Roberval had guessed better than Paulette at the name of the woman the marquis had wished to announce to the mob. Why had Saint-Imier not given it after the preliminaries? The idea that a power as strong as his own had prevented him did not occur to her.

She had promised her fiancé to meet him in the Bois de Boulogne. Dared she keep the appointment? Not to go, would be to worry Gabriel de Neuville, who, like everyone else, had heard the marquis' threats, and already knew enough to be able to guess the rest. But to go—would that not be to place herself in the lion's jaws?

But after all, what would she be risking? She would go—and immediately. Nevertheless—fear paralyzed her. If the marquis should have accomplices? If one of them had been told off to kidnap Ghislaine Roberval? A kidnaping in broad daylight—Saint-Imier was quite capable of so audacious an action.

Ah, how she regretted the past, when still a young

girl, she had been flattered to see the marquis paying attentions to her. She had imprudently accepted his advances until the day when chance had allowed her to see his basic character, vile and cruel. She was certain, now, that the marquis would stop at nothing . . . Well, in that case, the thing to do was to be with her fiancé, who would be able to defend her.

She went to the Bois. Gabriel was already waiting near the Pre Catalan. As usual, he was calm and smiling, and seemed unconscious of any possible danger.

"My dear Ghislaine, I hope that the ridiculous announcements, that everybody has been hearing, have not disturbed your sleep?"

"Alas, yes! I'm really frightfully worried."

Neuville began to laugh: "Why? Because a practical joker wants to gather a big crowd around the Place de la Concorde this afternoon?"

"You're laughing? But why has the crowd been invited? Can't you imagine what woman he was talking about?"

"My dear, keep cool, and don't worry. Of two possibilities, one must be a fact, either it's the Marquis de Saint-Imier with one of his excesses again—and if it is, I promise you that I, for one, won't hesitate to denounce him. He's beginning to be annoying, that animal. Now, if it isn't he—"

"But it is, Gabriel, I don't doubt it for a minute."

"In that case, he can come to the Place de la Concorde as he has announced. He will find me there to pull his nose for him."

"Gabriel, don't go."

"I beg your pardon. I shall be the first one on the spot."

"But this man has extraordinary methods of . . ."

"Parbleu! Do you think so?"

"But this blockade of Paris and then of all France?"

"My dear Ghislaine, according to what I heard at the Ministry of Foreign Affairs, the marquis had nothing to do with that. Do you know what caused it? A Japanese scientist living in Russia has made an enormous electromagnet with extraordinary powers, and he is performing some experiments at our expense, that's all."

"But the marquis is using the results of those experiments. He has said as much."

"Bah! He's a boaster. It's another of his lies."

Ghislaine and Gabriel were alone, all alone, in a little glade. All at once they heard a voice near them murmur:

"Diplomats who talk too much never get anywhere."

Gabriel cried: "Who is following us?"

He looked around, but saw nobody.

Mme. Roberval, trembling, had let go his arm. She was about to say: "It's the marquis' voice."

But she did not have time. Gabriel de Neuville, as though struck by lightening, rolled at her feet.

"Got two!" cried a strident voice.

Ghislaine would have cried out, screamed for help, but she remained mute with terror; the marquis, grinning terribly, stood suddenly before her. It was like an apparition; for he vanished as he had come . . .

A suddenly-organized search failed to find any trace of anyone. The examination of Gabriel de Neuville's body failed to show the slightest trace of a wound. It was thus established, that what Ghislaine declared to be a crime was nothing but a sudden heart-failure on the part of her fiancé.

● Mazelier did not care much for official society, and the President of the Republic was reported to be not particularly fond of that of scientists. But Mazelier had to lay before the head of the country, who understood nothing of such subjects, the reasons why France was cut off from the rest of the world and Paris from the rest of France. How would he manage to do it?

On his side, the President expected to see before him, a man filled with the pride of recondite information, who would tell him a great many incomprehensible things and make a lot of demands he did not wish to meet. It was impossible to believe that the man who, they told him, was the only one in France capable of saving the situation, would not ask for very considerable rewards.

Mazelier and the first magistrate of the Republic were, therefore, equally on their guard when they found themselves in each other's presence in the presidential office. They looked at each other . . . and suddenly their strained faces relaxed a little. They had, by a species of telepathy, seen themselves in each other, equally simple, equally enemies of bunk and useless words. The ice was broken immediately.

"Monsieur Mazelier," said the President, "I beg you to be seated."

"Thank you, Monsieur le President. I have not yet slept tonight and—"

"You have been working continuously, and I have doubtless interrupted you in sending for you. But you understand the situation. This blockade, to which we are submitted, is both ridiculous and terrible. Can you get us out of it?"

"Very easily."

"And when?"

"Right away, if you insist. I may add that if I have not already ended it, it is for excellent reasons, which I ask your permission to lay before you."

"Speak! Speak!" cried the stupefied President.

"I have voluntarily allowed this state of affairs to continue, although it is truly embarrassing, in the hope that the man who brought it about will be obliged to come out in the open."

"But we know who it is!"

"Really, Monsieur le President?"

"The information is certain. It is a Japanese scientist, with a new electromagnet, who has caused it."

A burst of laughter, in defiance of etiquette, shook the presidential assurance a trifle.

"You don't agree with that, Monsieur Mazelier?"

"Not for a minute, Monsieur le President! The author of the blockade of Paris is in possession of formidable weapons. He is threatening the most abominable crimes and he has already committed some this night."

"What?"

"Yes; it is the same man who dared to invite the public to a new type of spectacle at the Place de la Concorde."

The President remained incredulous:

"I believe," he said, "that you are confounding two things; a joke and a scientific experiment. Both of them are guilty of upsetting the—"

"Both are criminal, Monsieur le President."

"In any event, it is hardly permissible to play a public joke of that character. Well, Monsieur Mazelier, since you can open the frontiers of Paris and of the country, I ask in the name of the country that you do it without delay."

It was an order. Mazelier bowed: "I cannot obey you as yet," he declared clearly.

"Because you are unable?"

"I left Paris tonight, Monsieur le President. I had to take to a place of safety, outside the city, because my collaborator, Gribal, was struck down under my very eyes, by the murderous radiation with which the criminal is menacing the entire population."

"And you said nothing to the police?"

Mazelier risked a slight shrug of his shoulders:

"The prefect of police can do nothing against a man whose very name is unknown to him, and which he will be unable to discover unless I tell it."

"You know, then—this individual?"

"Yes, Monsieur le President."

"And you will not give the name to the officers of justice?"

"No; for it would be to make certain of failure."

"But will you tell it to me?"

"I came here to tell you everything. The man, whose science and audacity make him so dangerous and so capable of escaping justice and who has not been touched because of his position, is the Marquis de Saint-Imier."

The name made the President start. "Saint-Imier! Impossible! But you are—"

The President stopped himself, just in time, from saying "You are crazy." He went on:

● "You are certainly mistaken. Saint-Imier! Every one in the cabinet knows him. He has a colossal fortune."

"Yes, Monsieur le President. That is all true, and more. But in running down the person responsible by means of my scientific apparatus, I found the Marquis de Saint-Imier. That is the plain, brutal fact."

"But, if your apparatus made a mistake?"

"Impossible. Besides, I have checked it in a dozen ways. I am certain of what I am saying."

"Your name and your attainments inspire the utmost confidence, but I must tell you that I don't believe you."

"Time will tell, Monsieur le President."

"Time! Time! But time has been running on without bringing any information but the unlikely hypothesis you have just advanced. This is hardly very good. You can liberate the stalled traffic of Paris and of all France and you refuse to do it because you have a theory about who is causing the trouble."

"If you were persuaded that I were telling the truth, would you blame me, Monsieur le President?"

The question touched the heart of the matter. The President, who was becoming angry, became calm again.

"Perhaps," he conceded. "Unfortunately, I am not persuaded. Saint-Imier! But it's absurd. And you—"

The ringing of the telephone interrupted the conversation, and the President must have found the information it gave him interesting, for with a gesture, he invited Mazelier to take an extension. The scientist heard:

". . .. There are more than fifty thousand persons gathered around the Place de la Concorde to see the arrival of the man of the radio. It is now a quarter to three, and nobody has come, naturally. People are already beginning to leave. Order is perfect and the crowd is calm."

"Come," said the President, "admit that you were wrong to take a bad joke so seriously. Believe me; relieve the blockade if you can, and think no more of the poor marquis who doubtless does not even know you are talking about him."

The audience was over, and Mazelier was left in confusion. The scientist was about to rise and take his leave, when a sharp voice resounded through the room from the loudspeaker which the president, like the meanest citizen of France, kept in a corner. And the voice in mocking accents, was making a new series of threats:

"Parisians, you are laughing because I didn't keep the appointment I made for this afternoon. Wait for a few minutes and you will laugh no longer. I have already accomplished a portion of my vengeance; the woman who should have been given to me is mourning her dead fiancé now. Let her take her lesson from this. And I have already demanded once, that you sacrifice the two men I hate. Mazelier and Gribal! Mark those names. Gribal was already struck down last night; now let Mazelier tremble. He will not escape me, even behind the barred doors of his office. And his death will be frightful!"

Silence. The President of the Republic, gazed dumbfounded at Mazelier. The scientist in spite of the injunction was not trembling.

Sharply the voice went on: "Parisians, you will now feel the weight of my anger. I could kill you by the hundreds; but I prefer to kill you one by one. I will exterminate you in detail; it will be more amusing."

A laugh at this lugubrious joke came from the mouth of the loudspeaker. And the voice continued:

"In an hour you will have twenty victims to prove that I can do what I say, and that I meant what I said when I demanded the sacrifice of the three persons as the price of your lives. And that is not all; ten children will fall dead. Every day, do you hear, every day, there will be ten more deaths, chosen by chance in the city. Nothing can prevent them; useless to try."

Mazelier was by now as overwhelmed as he had been calm before.

"There is not a minute to lose!" he cried. "Monsieur le President, give me permission to act."

A suspicion crossed the mind of the head of the State. He asked himself whether Mazelier himself, had not organized this affair with the aid of some accomplice. But the absurdity of such a suspicion was all too evident. And then?

Mazelier was on his way to the door when a servant appeared.

"Monsieur le President, a lady in mourning insists on your receiving her at once. It is Mme. Ghislaine de Roberval."

This name, though unknown to Mazelier, was not unfamiliar to the President. What could the most beau-

tiful and fashionable woman in Paris be wanting?

"In mourning?" inquired the president. "I thought she was about to be married."

He gave the order that she should be admitted. It was a day of surprises, and the normal order of etiquette must give way before the necessities of the situation.

Ghislaine entered, pale as a ghost.

"What can I do for you, madame?"

"Monsieur le President," she said in a voice broken with tears, "I ask for justice. Justice against the cowardly assassin of Gabriel de Neuville."

"What? Monsieur de Neuville . . ."

"Was struck down this morning at my side while we were walking in the Bois de Boulogne. It was a crime. And I swear that the author of the crime was the Marquis de Saint-Imier!"

The President turned: "Go, monsieur," he said to the scientist, "I believe you and I place the resources of the State at your disposal."

"Alas!" said Mazelier, "this time I am arriving too late."

CHAPTER XVII
Unmasked

● Mazelier was fully aware that he would not have received the presidential carte-blanche without Ghislaine's sudden and dramatic interruption. He had stirred, but not convinced his auditor. Doubtless the president had been ready to admit that the director of the Office of Scientific Research was beyond suspicion, but so was Saint-Imier. How could he suspect the personal friend of half the cabinet, the man whose money, liberally disposed, had done so much for science and education? Mazelier had seen for himself that the head of the State did not take the radio threat seriously.

Alas, these threats were only too serious. The marquis had announced that the first deaths would occur within an hour. In ten minutes Mazelier would be in his laboratory ready for the struggle. He would begin by lifting the blockade as he had promised the president. And then he would undertake the counter-offensive against Saint-Imier. But where was he? In the Rue Cortambert? It was unlikely. And Mazelier asked himself:

"For that matter, will I reach my laboratory alive? The brigand can see and hear at a distance, and he must be watching me. By going to the office, won't I fall directly into the trap. He thinks Gribal is dead, but he knows I'm still in the ring. Should I expose myself? Well, so much the worse, my duty is clear. Roland is waiting for me at the office."

And as he hastened along, Mazelier continued to himself:

"He's right, that marquis. I should not leave my laboratory. He has made use of the time while I was away at the Élysée, and he has been able to give my name and Gribal's to the mob. Well, we will see. At any event, he has not divulged the name of the woman he pursues so furiously. That name—I know it now, it is Ghislaine Roberval. Well, well, marquis, we'll see."

Mazelier, arrived in the Champs-Élysées, was about to go up to the Rue de la Boetie, when he encountered a veritable tide of humanity. A shouting crowd was pushing in the direction of the Étoile, crying, "Assassin! Death to the assassin. Down with the baby-killer!"

It was the sound of a revolution in birth. But what revolution, and against whom?

This is what had happened: the crowd of the curious assembled around the Place de la Concorde, at the moment when Mazelier was having his conference with the president, amused themselves with their own remarks at first. Everybody was perfectly sure that nothing at all would happen. The public mind had been made up; the experiments of the person they had come to consider as a kind of scientific acrobat, juggling with radiation as an athlete with dumb-bells, were doubtless very curious, but were always a little behind the program he laid out for himself.

Briefly, he was bluffer. The end of the world had been promised; the transport of France had been disorganized, and for what? Nothing at all, when you came down to it. The earth continued its march through space; the sun rose every morning, and people went about their business. The unknown made continual threats and then did little or nothing. But what he had said this time had a personal interest for the whole population.

"It's him again? Bah, I'm too much in a hurry to listen. Tell me about it next week," said a man who was taking a bus in the Rue Chateaudun.

"Yes, yes, but listen. It's really amusing this time. Listen," called someone from a table on the corner, where he was seated before a glass of vermouth-cassis.

A circle of auditors gathered around the loudspeaker whose voice dominated the noise of the vehicles in the busy street.

When the voice pronounced the names of Mazelier and Gribal, they produced a veritable torrent of jokes. The two scientists became famous in a second; and they attained the notoriety to which their genuine discoveries entitled them without having to work for it.

"The guy's a nut," cried one gentleman comfortably seated at his cafe table. "Bright idea, to use the radio to announce that he's having a quarrel with Mazelier and Gribal!"

This was the common opinion. But a wave of uneasiness went over the crowd when the voice raged on to announce the deaths of ten persons taken by chance. It was a little beyond the license permitted to jokers. Nevertheless, the threat would not be carried out. At this moment Mazelier and Gribal would have received a public ovation if they had appeared. As the oration from the radio ended, there were murmurs of disapproval:

"It's time somebody squelched that idiot!"

And there was a general shrugging of shoulders. There are certain crimes impossible to commit, especially when one announces to the public that they are about to be committed. Nobody doubted but that the prefecture of police had been warned and the detectives of the Sureté were already on the job. And the individual who had already been looked for could expect a rough handling when they found him. It would not be too hard—broadcasting stations are not difficult to locate.

As a matter of fact the prefecture and the Sureté were working. The news that they were searching for the origin of the voice, followed the voice itself with-

out a moment's delay and had the effect of calming the mind of the public still more.

● All at once there came a piece of news that was like a clap of thunder. While people were listening in the center of Paris a terrible drama had been taking place in the outskirts. Ten children in Passy had been striken, covered with terrible burns. The crime had been committed, and the assassin had not even had that kind of cynicism which permits a criminal to keep his word exactly; after having sought the aid of the Parisians, he had deceived them. As cowardly as he was cruel, he threatened at one place and struck at another.

But could one believe what was said; the horrible details that were passing from one quarter of the city to another by word of mouth? Alas, to those who would have liked to have doubted the crime and its terror there came confirmation from the criminal himself as the loudspeakers once more resounded with the well-recognized voice:

"Parisians, do you believe me now?"

The assassin was triumphant and his laughter an insult. He went on: "I have kept my promise. Justice is done on the wicked city!"

There was in the crowd a ground-murmur that contained at once the seeds of fury and revolt.

The scoundrel dared to speak of justice! He went on: "For today, that is all. You are at liberty. All of you can go about your business. But I warn you that if Mazelier is still alive by tomorrow, twenty children will pay the forfeit for him; on the following day forty, and the day after that eighty, and so on. Until the day when you have obeyed me and given him up to justice! I want that man! Good night, Parisians; I have no more to say to you but that nothing will stop me now."

Fists were clenched toward the loudspeakers as though the inanimate machines could have transmitted to the unknown these evidences of the general anger.

And it was almost as though they had, for the voice took up again: "You didn't take me seriously, did you? Don't complain now, I gave you plenty of warning. But be warned; if you do not obey me, I will kill every child in Paris, and then the rest of you, one by one. I hate you, citizens of Paris; everything you suffer only increases my pleasure. Your anger, your fears are delicious. I hate you, all of you!"

The entire city was literally in the street, moving aimlessly about, and resembling one of those prodigious tidal waves which carries everything before it. The formidable murmur of revolution mounted; a breath, a sound, would turn it in one direction or another. There was not one person in a hundred thousand of those who heard who had ever seen or heard of Mazelier and Gribal, but the two names, let loose in a dozen streets by voices raised in genuine anger, became the symbols of the resistance and defiance the crowd offered to the unknown menace.

"Vive Mazelier! Vive Gribal!" shouted thousands of voices in different parts of the city.

A final mockery came through the loudspeakers: "Yes, *vive Mazelier!* but add 'Death to Paris!' afterward."

The voice said something more but nobody heard or wished to hear; the mob was up; the church bells that had sounded for the deaths of kings, tolled in Paris, and the sections were choosing delegates to call on the President. There, they were received with courtesy and given the latest details in possession of the authorities.

Ten children had been attacked by the mysterious forms of radiation at regular intervals of three minutes. A half an hour had been enough for the multiple assassination. But, among these ten children, one had miraculously escaped the agony of the others. The escaped child lived in the Rue Duphot; attacked at exactly a quarter to four, he had suffered agonies for a few minutes, and then his tortures had ceased and his burns had quickly disappeared.

The other nine had succumbed under conditions which left the witnesses altogether incapable of describing the event. What kind of radiation had been used? How was it that the first child attacked had escaped the danger? These questions would be studied later; for the moment, the entire population had a double duty; first to prevent more crimes and second to discover the criminal.

Now, at the Élysée, chance or providence had ruled it so that the servant who had introduced Mme. Roberval had waited in the outer office. He had good ears, and the name of Saint-Imier, pronounced with such energy by Ghislaine, repeated with stupefaction by the president and with an accent of triumph by Mazelier, had reached his ears. And when the delegations from the sections arrived he could not restrain himself from affirming:

"It's the Marquis de Saint-Imier!"

Nobody thought of doubting, such is the unreasoning passion of a French mob, once aroused. From the courts of the Élysée to the Faubourg Saint-Honoré, from the Faubourg to the Champs-Élysées and the Place de la Concorde, the news ran like a fire through a train of powder, and a few minutes later, as the cabinet was in session, it was hurled even there into the midst of the discussion. The Minister of Science, vibrating with indignation, cried:

"I protest aganst the calumnies which are being spread abroad! An occasion for public mourning should not serve as the pretext for absurd accusations."

But it was noticeable that the President of the Republic did not support the protests of his minister. Nevertheless the latter went on:

"Come, come. It's foolish to raise such accusations against a man of the importance of Saint-Imier without cause and without proof. I dined with him only yesterday evening."

● The Minister of the Interior answered:

"Ah, my dear fellow, if every other murderer only knew that a sure means of avoiding suspicion was to invite you to dinner!"

Everyone recognized that, because a man was rich, was no reason for exempting him from justice. But, what could be done without proof? And there was no proof.

It was the President of the Republic who cut the knot of the difficulty:

"There is no reason," he declared, "why we should not make an investigation. In a moment as grave as

this, I need not add, I suppose, that we should take precautions that the inquiry should not be influenced from any quarter whatsoever. Justice must be done without weakness. But, on the other hand, such an inquiry will keep the people of Paris from being carried away by momentary impulses."

It was impossible to object to these words of wisdom. The Minister of Science no longer opposed, and his colleague of the department of Justice went into immediate conference with the heads of the prefecture of police.

Meanwhile, the president had another subject of worry. What had become of Mazelier? The scientist, when he asked for complete liberty of action, had doubtless intended to signify that he would pass into a prolonged eclipse from the public gaze. But only one of two things was possible; either the scientist knew nothing of the marquis' latest crime, and therefore, since he was ignorant, was inferior to him, or, Mazelier knew about it and his efforts to prevent the crime had been futile. For, if Mazelier were aware of what was going on, it was impossible to suppose he would not have done everything to prevent the crime.

Also, the head of the State wondered whether the child who had been saved had not owed his life to Mazelier. But why had only one escaped? In any case, bound by the promise he had given to Mazelier, the president could not confide his impressions to anyone.

Meanwhile, events were driving on in a manner altogether unforseen.

While the official powers were discussing the method of an inquiry, which was considered a matter of extreme delicacy, difficult and extremely confidential, the people, stirred by the obscure atavism of self-defence, were on their way to perform the same task without official permission.

From all directions, without an order being given, the people were gathering. Let the assassin defend himself by the emission of his murderous radiation. The people would see whether he was capable of striking down an entire population. The radiations tamed by the marquis made him redoubtable, no doubt, but could his powers really extend to infinity?

Every street of Paris became filled with a human river, all flowing in the direction of the Rue Cortambert and the home of the marquis. The crowd was all the more formidable because it remained silent. Not a cry, not an imprecation, not a gesture. But silently, it moved along, every member animated by the same thoughts like different drops of water in a tidal wave.

In a few minutes the Rue Cortambert was filled by that flood, which halted before the great mansion of Saint-Imiers, with its double doors, the back-eddies piling up in all the adjoining streets.

With the irresistible force of a tide the mob went through the doors, and then, despite the protests of the doorman, into the grand hall of the building itself.

Then, and only then, was the invasion provided with some sort of organization.

Two companies were formed to explore the different parts of the building. One remained in the entry-hall to question the domestics and centralize whatever information was obtained. A footman, with a suspicious eye and proud lips, tried to halt the invaders at the foot of the grand stairway. He was seized by iron hands. Frightened, he babbled:

"What do you want here?"

"We wish to see your master!" said a rude voice.

"But Monsieur the Marquis has gone out."

"We will wait. Get your comrades, the other servants, together, and bring them here."

Between two bodyguards the footman led the way toward the office, while the searchers began to explore the four floors, the cellars and the vast garages of the marquis.

What would they find?

CHAPTER XVIII
The Secret of the Stairway

● It must be remembered that the different incidents of this inquest all took place together, although they are narrated here in sequence; and the intervals between them are intervals of a few seconds only.

It was swiftly established:

1. That the servants of the household were all there, with the exception of a housekeeper called Suzie la Bretonne and the chauffeur of the marquis, the Chinese, Pou-Hi. Where were they? The others could give no information on this point.

2. All the servants were agreed in stating that the Marquis de Saint-Imier had gone out, alone, about twenty minutes before, in the little town car he kept for running errands around Paris. The fact that he had taken this car indicated to the others that he intended to return early.

Nothing abnormal about any of this. But suddenly they were in the midst of impossibilities.

The servants, after having said there were but three loudspeakers in the mansion, one in the little salon on the ground floor, the second in the marquis' room and the third in the rooms reserved for the use of the help, added that they had as usual turned it on during their lunch. That a little later, their loudspeaker, as well as that in the little salon, had suddenly ceased functioning in the midst of the concert, and that afterward, having heard nothing else, they imagined something had gone wrong with the apparatus. Questioned as to the threats which had come over the air, subsequently, and had been heard from every radio in Paris, they affirmed, with the utmost apparent sincerity, that they had heard nothing at all.

Thus there were two possibilities:

Either the servants were all in agreement to tell the same lie, and in that case, it would be necessary to assume that the Marquis had extended his circle of accomplices to a dangerous size,—for when there are so many, the result is that one of them always tells.

Or, they were telling the truth, and the disconcerting fact must be admitted that, alone in all Paris, the loudspeakers in the marquis' mansion had remained silent at the precise moment when the assassin was boasting of his crimes.

If this fact was not directly incriminatory it was at least indicative. It could mean that the Marquis de Saint-Imier had found a means of speaking to the rest of the world without being heard in his own household.

A second report, from the group which was searching the rooms on the second floor, added to the uneasiness which everyone felt in this luxurious house. The marquis' bedroom was on this second floor, reached

through an ante-chamber next to a bathroom. There was a striking contrast; all the furniture of the ground floor, including the dining rooms, was of an extraordinary richness, almost too rich and elegant; all the furniture of the second floor was made up of pieces of surprising elegance, veritable museum pieces.

But the ground floor furniture was garish and absurd, that on the second floor, refined and in the best of taste. Second contrast; the windows on the ground floor contained jewels, set in the worst possible style; but, on the second floor, the windows were stained glass in indisputable taste. The same thing was true of the pictures which covered the walls, but in a different way.

The ground floor was filled with the latest works of the moderns, hideous and popular. But the enormous bedroom contained only a single canvas, a wholly admirable portrait of a woman. In a corner of this portrait a card had been placed. It bore the name of Saint-Imier and these curious words:

"I loved her
Now I hate her"

No one in the mob could recognize the portrait as one of Ghislaine Roberval.

But the visitors were not in the marquis' private residence to look over his art treasures and furniture; they were there to find proof that an atrocious crime had been committed in the house. There ought to be a wireless station in the building. But no such place had been found, though it would be in the upper floors near the bedroom, in the most reserved part of the house.

The search party was about to go back over its tracks, when one of its members, an interior decorator, whose models of new designs for furniture bore witness to a remarkable originality, signalled them to wait for a moment. The big four-poster bed interested him. At a glance it was evident that it was a perfect example of the art of—but no! it had no particular style, it was unclassifiable.

This mass of carvings of unequal excellence, these motifs, so curious and unusual. An intuition flashed through the head of the decorator; he remembered the legends that clung around certain princely beds of the Renaissance, veritable secret chambers in themselves, in which stores of weapons or poisons were concealed, or which contained huge strong-boxes for the reception of money.

The decorator, to the astonishment of his colleagues, began to feel every carving, every sculptured motif. As he had the air of examining it solely from the standpoint of artistic taste, there were murmurs:

"We're losing time. Can't be anything here. Let's look somewhere else."

● And in fact, if there were secret drawers, like those in the famous chamber of Catherine de Medicis at the Chateau de Blois, they were a long time in coming to light. The curious inquirer was about to abandon his task, when, suddenly, he felt something give under his fingers.

At the same moment, behind the head of the bed, a large panel swung open in the wall, presenting to view a stairway large enough for three men to have mounted abreast. The movement had certainly lit an electric light somewhere, for the stairway was bathed in its glow.

The decorator was triumphant. But where did the stairway lead?

The group divided into three parts; the first was given the duty of climbing the stair; the second that of going down it, for it led down as well as up; the third remained in position.

Meanwhile, the visits to the rest of the house went on without incidents. One group arrived at the garage and found it locked. The key was asked for in vain from the porter and the other servants; all declared that the marquis usually carried it on his person. They added that there was a second key, but that the Chinese chauffeur always kept it.

The inquisitioners were not long in coming to a decision. They would break in the door.

Here, a remark is necessary. Crowds, like individuals, are capable of the most contradictory actions. Among those who burst into the marquis' mansion were people of all classes and all types of morality. If some of them had arms on them, they never thought of using them. And others, whose morality had not always been of the highest character, thus participating in an act of public policy, never thought of committing the slightest theft.

They were incapable of stealing anything; but at the least sign of resistance, or the first suspicion, they were capable of destroying everything.

The garage door gave way at the first push. And the pushers halted suddenly, with the same exclamation of surprise as their companions on the second floor, at the sight of another secret stairway.

And, at the precise moment when the garage door gave way, a powerful touring car, all its lights ablaze, clashed suddenly into gear and charged away from them, directly at the rear wall of the garage!

Who was within? Who, rather than let himself be taken alive, was willing to dash himself and his car against the wall of the garage?

To the general stupefication the wall opened, and then closed behind the auto, as though it were made of gauze. The disappearance took place so swiftly that it seemed altogether unreal. A cry of rage swelled up behind the first cry of surprise.

"The brigand! He was in it! He's getting away!"

"Not for long. You can't lose an auto."

"Not when you have the number. But we haven't."

"Gentlemen," said the chief of the searching party, "we must continue our hunt."

Everyone was afire to discover the secret of the wall through which an automobile could pass. But this new incident, added to that of the bedroom, when communicated to the group in the entry hall, and thence to the crowd in the streets, and so on its way through all Paris, aroused the liveliest emotions. A little amplified, perhaps, even a little deformed in the telling, it arrived at the room where the ministers were still busily discussing the proper forms for an official inquiry into the Saint-Imier house.

It was decided to begin the inquiry without delay. But the machinery of justice is slow about getting in motion. And the responsible magistrates hesitated to issue the proper warrants, for they found no evidence of any reason for beginning official processes against anyone but the crowd who had invaded a private residence.

The crowd, meanwhile, was unembarrassed by these scruples. In the eyes of everyone present, the discover-

ies made, so far, justified pushing the search still further. That was why, instead of patiently looking for the opening in the rear wall of the garage, it was judged simpler to take it apart, brick by brick, with chisel and pickaxe. In the twinkling of an eye, amateur house-wreckers were at work. They discovered immediately—and this did not surprise them—that the wall was nothing but a concealed partition, which contained neither bricks nor steel. A very ingenious system was quickly laid bare by the inexorable picks, by means of which the door was rolled back. Its ingenuity did not impress the observers; the only question they asked was:

"What are we going to find behind the wall?"

The reply was not long in coming. The wall once down, the searchers found themselves in another garage. And its doors were wide open on the Place de la Muette. The auto which had disappeared, with its lights ablaze, must be a long distance away by this time, on the Bois de Boulogne. The second garage contained two machines; another touring car and a low-bodied racer. Did they belong to the marquis? Evidently not, for a guardian in livery appeared on the scene, at once angry and frightened, to protest against an intrusion, which in truth, could not be justified. But from questioner he was quickly turned into questioned. He must have known what had aroused the grumbling mob around him for he ceased his complaints, immediately, when he heard cries of:

"We want to punish the baby killer!"

● He was an individual with the olive skin of the typical South American, and he spoke with an accent:

"Gentlemen, I beg of you, don't hurt me."

"Good. But answer! Did you see an auto go out just now?"

"No, I swear to you. I was in the kitchen when I heard the noise of your pickaxes. It is for that I came out. But I saw nothing. I swear it!"

"Who owns this garage?"

"Señor Cuchillo."

"Ah, and where is Senor Cuchillo? We want to talk to him."

"Señor Cuchillo is at Biarritz."

A sly light appeared in the eyes of the guardian, but the crowd did not perceive the difference. Neighbors came to confirm the fact that house and garage did indeed belong to the rich Argentine.

The fact that the two garages were backed up to each other was not really abnormal. But another fact was at once curious and troubling; the two garages communicated with each other by means of a secret door, and the marquis' auto had left the door of the rich senor open.

"Bah!" said someone. "The police will clear that matter up. Let's go back to the marquis' garage and see what other surprises we can find."

As a matter of fact, what was needed was a complete search, carried on as rapidly as possible, to surprise the enemy in action if possible. A second sooner and they would have had the auto. Therefore speed was the essential.

And as the search-party returned to the first garage, they seemed to hear, behind the wall forming an angle with the demolished partition, footsteps and the sound of voices. Was this wall too, a fake? In any case, there came the sound of blows.

"Pickaxes up!"

The demolishers had already seized their tools and were preparing to tear down this second partition, when it opened suddenly—like that in the bedroom, and like that which had let the auto pass.

"It's us!" cried a voice. "Don't strike."

The picks fell to earth again. The new arrivals were part of the party which had been searching the upper floor, and who had gone down the secret stair to find out where it led to.

So, the secret stair led to the garage.

Therefore the marquis could come in and go out without anyone in his house knowing about it, by using his private stairway and the Cuchillo garage.

The inquest was advancing—but without any direct proof of culpability. But had the garage delivered up all its secrets?

Before going back to the vestibule to report to the party in charge, the searchers resolved to make an inventory of everything in the garage. But as they began a terrific clamor came from the upper floor, spread abroad to the vestibule and the court, and they left their task to run after the new discovery. There was a tempest, a hurricane of imprecations, a collective fury carried to the last limits, a release of one of those popular passions which nothing is capable of resisting. Fists were clenched, voices went high and hoarse, broken sentences were shouted.

"Death to the assassin! Lynch him! Death! Lynch him!"

What had happened?

The party that had gone up the secret stair had stopped at a landing corresponding to the third floor. The marquis had been so certain that he would never be discovered that he had not even taken the precaution of turning the key in the door on this landing. The searchers penetrated into a huge bedroom, furnished with that elegant sense of luxury which is found only in the highest circles. The room had no lights but interior ones, no issue but a small skylight heavily barred. And it contained nothing but furniture.

But the searchers went on, certain that they would find something. There was another flight of stairs; they climbed to the fourth story, and penetrated into another room which opened on the hidden stairway; and here they gave an exclamation of triumph. For this was, without the slightest doubt, Saint-Imier's secret laboratory.

The first things to draw their attention were two huge mirrors, one concave, the other convex, mounted on universal joints which permitted them to be turned in any direction. Then the trituration tubes, the retorts, the glassware of the ordinary chemist; an electric furnace of extraordinary design and great power; a series of radioactive compounds in tubes; a radio receiving apparatus which at a first glance seemed like commercial apparatus, but in which certain details were peculiar, as for instance, the presence of two brilliant discs on the lateral faces; other machines, invented and made, certainly, by no other hands than those of the marquis, whose use could only be told with certainty by experts, but which did not at first draw the attention of the searchers, and beyond, a doorway, leading to a private office.

On the table, papers were spread out. They were examined, at first cursorily; what interest or importance could scraps of paper covered with figures, mathematical signs and hieroglyphical formulas have? But one of them was easier to read.

"Look, names and addresses. And figures. The marquis' list of creditors with what he owes them."

There would have been a laugh at this pleasantry, had not one of the searchers cried:

"But that's the list of the dead children!"

CHAPTER XIX

The Duplicate Assassin

● Every eye was directed at the tragic paper. The truth was as clear as day. On the scrap of paper, the marquis had written the names of the children who had been struck down. And the list was too old to have been made after the crime.

Ten names, with the corresponding addresses were written in ink. Nine were struck out in pencil. The only name not crossed out was that of the child who had escaped, living in the Rue Duphot. And between the lines were written in pencil, the names of nine more children.

Opposite every name there were figures. What did they mean? Never mind, that could be discovered later—the important thing was that the proof was found at last. But the angry crowd need not worry now; they were certain of their game.

More pieces of paper were discovered. They were carefully classified. The first bore the heading, "Tomorrow evening, at five," and contained a list of twenty names. The second was headed "Day after tomorrow, at four," and it contained forty names. They corresponded exactly to the frightful program announced by the loudspeakers. The third scrap of paper was a sketch map of the streets at the east of the Halles Centrales. A semicircle, traced in blue crayon was around a section of it, and there were twenty points indicated in red crayon accompanied by mysterious numberings. A fourth slip of paper bore a similar sketch of the Montmartre district with forty similar numbers and indicated points.

Thus, in the silence of his room, believing himself hidden from all eyes, disposing of forces against which there was no defence, this man had studied out, in cold blood, and prepared the way for the assassination of the population of a capital.

In the explosion of anger, provoked by the discovery of these documents, one detail was not perceived; the secret stair led to the fifth floor and the room of the Chinese chauffeur, Pou-Hi. When it was finally discovered, the odor of the cigarettes the Chinese smoked habitually was still in the room; Pou-Hi had evidently left only a short time before. Further on a door communicated with the room of Suzie la Bretonne, and on the bed was a headdress in the style of Saint-Guenole, newly pressed. It was therefore natural to conclude that the two servants were accomplices of their master. They, alone, could know of the existence of the stairway.

Moreover, everyone noticed that the lists of the persons the marquis meant to slay bore their names, their first names and their ages. How had he been able to get such precise information and why? Would it not have been simpler to strike by chance?

Such questions the crowd relegated to the rear. What everyone wished was the immediate punishment of the criminal. And while waiting for that why not destroy his instruments? Yes, break everything in the laboratory. What did it matter what might still be discovered? The terrible pieces of paper were enough. The importance of a decisive proof is not helped by secondary proofs, no matter how good. As to giving the criminal to the ordinary processes of justice, what use would it be? No—violence was the only remedy.

Who gave the signal for the beginning of the destruction? Nobody. One would have said that everyone gave it at once. The sack of the laboratory began at the moment when the police, impotent against the gigantic crowd, appeared on the scene.

At the Élysée, the council of ministers was over. The President of the Republic, alone in his room, was reflecting on the grave events of the day. He had been kept advised, in some measure, of what was happening in the Rue Cortambert. The president's decision was made; the Marquis de Saint-Imier had escaped and it might not be easy to capture him. A *levée en masse* of the whole counrty might have to be called for. It was necessary to proclaim the marquis a public outlaw.

All at once the telephone sounded. The features of the president expressed delight and surprise as he heard the voice of the prefect of police. The Paris police are really the best in the world! The prefect announced that one of his inspectors had discovered the marquis at the cabaret of the Cèrcle des Arts. He was taken immediately before the magistrate. The prefect added that all necessary precautions had been taken to prevent an escape. Delighted with this news, whose effect would be immense, the president hung up the receiver. But he was immediately recalled to the instrument. This time it was the director of the secret police who wished to speak to the president in person. And the president in person gave signs of stifling when he heard the news:

"What? You say, my dear director, that three of your inspectors have just arrested the Marquis de Saint-Imier? At the Cèrcle des Arts? What, what? They arrested him as he left the Princess de Lezigny's house? Rue de Varenne? Are you certain? No resistance, hm? They have taken him before a magistrate. Well, tell me the news. I am curious to know the results of the questioning. Yes, thanks. Good-by, my dear director."

The president forgot to congratulate the zealous official who had thus transmitted a piece of news of the first importance, and who thought himself entitled to at least the ribbon of the Legion of Honor.

But the president, perplexed and troubled, suspected an unforseen complication, also of the first importance.

How in the world could the same individual have been arrested in two spots widely separated from one another? How had the inspectors of the police department been able to meet the Marquis de Saint-Imier at the Cèrcle des Arts, two steps from the Étoile while the inspectors of the secret police were arresting him in the Rue de Varenne? Someone had lied or been deceived.

The President sighed. He knew the vagaries of public opinion. He knew that the Parisians have always been delighted by those good stories which permit them to

laugh at government officials. That the frightful drama of the Rue Cortambert should become a means of laughing the government out of office, even before it reached its conclusion, was a little shocking. Something must be done to evade it.

But which one, the prefect or the director, had been deceived? And suddenly, the president thought:

"What if neither of them had been deceived? With a man of Saint-Imier's type, anything can happen. I'm going to call the Ministry of the Interior."

He did not have time. The Minister of the Interior called him first, on a question of importance. The Saint-Imier mansion was in flames.

● The arrest of the Marquis de Saint-Imier at the Cèrcle des Arts had not been attended by the slightest difficulty. The captain of police for the Muette quarter knew the marquis very well and was on familiar terms with him. Saint-Imier affected to live in what he was pleased to call a "house of glass." He took no kind of precautions, apparently, in his private life. Everybody seemed to know him. The papers took notice of his appearance at all the official solemnities, at all the notable receptions, the leading sporting events and society weddings.

Thus it was, that everyone knew that the marquis had the habit of stopping in daily at the Cèrcle des Arts. A couple of good man-hunters, had been posted there without any great hope of finding their game, for nobody imagined that the game, so clearly unmasked, would have the impudence, or the imprudence, to come to his usual haunts.

Nevertheless, he came. He came late, but he came, and his lateness was only another reason for supposing, that at the time of his usual visit, he had been committing a crime. The marquis had not even thought to provide himself with an alibi.

At the Cèrcle a half-dozen regular habitués were on hand, no more. These few were chatting about the wonderful progress being made in radio, which permitted a single individual to mystify all Paris.

The marquis agreed with them, and added with an indignation, somewhat surprising in a skeptic, that the police ought not to permit that sort of thing. Then, with a volubility not quite usual in a personage ordinarily reserved, he had expanded on the way in which crowds will believe anything at all. His six auditors remarked that he spoke rapidly, and without replying to remarks made by the others, as though he did not hear their questions, or rather, stared off into the distance as he spoke, as though unaware of their presence.

After which, he rose, passed into the reading room, ran briefly over the evening papers, which bore scare heads:

TEN CHILDREN KILLED
BY UNKNOWN RADIATION
Police Search for Criminal

A copy of a later paper was handed to the marquis by an employee of the establishment. He read aloud in a monotonous voice, and as though bored to death:

MOB ATTACKS
ST.-IMIER HOUSE
Mysterious Auto Escapes
Through Garage Wall

One would have expected him to be a little more stirred by this news. But he showed no sign of it if he were. He refolded the paper, put it in its rack, and with his monocle in his eye, stepped out into the hall of the Cèrcle, where he was pounced upon by four policemen, their revolvers in their hands, for they expected a furious resistance. But there was no resistance at all. The marquis only asked, with a smile on his lips:

"*Sapristi!* What haste! What would you like, gentlemen?"

"You are M. de Saint-Imier?"

"Yes, but I regret to say I do not know you."

"We are police inspectors and we have a warrant for your arrest."

"That's odd," said the marquis calmly, and then added:

"I am arrested then. Would you mind telling me what I ought to do? It's not usual for me, you understand. I have never been arrested before, but once, and then it was by a fog while I was flying over the North Pole."

The scoundrel dared to joke. An automobile drew up in answer to the policeman's signal.

"Get in quick," advised the inspector, "if you don't want to be lynched in the street."

The marquis got in docilely beside his guardians. The position he was in seemed to leave him altogether unaffected. The auto went to the Palais de Justice, where M. Blondel, the magistrate in charge of the inquiry, was to question him.

The other arrest of the marquis took place almost simultaneously in the Rue de Varenne, and was due to a happy accident. Opposite the residence of the Princess de Lezigny was a little wine merchant's shop. From time to time inspectors of the secret police came there to take a glass or two of mousseux. Now one of these, remembering having seen the marquis' auto frequently halted before the Lezigny's, and knowing that M. de Saint-Imier was usually to be seen at society receptions, placed himself on guard at the bar. He had the delight of hearing the wine merchant say:

"Ah, there comes the marquis. He hasn't Pou-Hi with him today."

"Who is Pou-Hi?" asked the inspector.

"His chauffeur, of course. The Chinese."

"Ah, yes. True. The marquis is driving himself."

It was the little car which the porter at the Saint-Imier mansion had mentioned to the invaders.

● The inspector saw the marquis go in, and telephoned for reinforcements.

About the same time, the marquis, entering, perceived that he was alone in the salon.

"Ah," murmured Mme. de Lezigny, "it's so good of you to have come. Do you know, I am dying of fear? Did you hear the radio?"

"Oh, yes, and I agree that it made a very disagreeable noise. Just the same, I see nothing to be frightened about."

"What, don't you know then—?"

"Oh, I never know anything. What happened?"

"The threats have been realized," said the princess, in a low voice, which seemed to be trembling with

genuine fear.

The marquis started:

"What do you mean?" he said.

"I just heard that ten children have died, as the loud-speakers predicted."

"But it's frightful."

"Isn't it? I don't dare to move any more. I hardly dare to breathe. It's frightful, marquis, frightful."

"And incredible," said the marquis. "Are you certain?"

"My brother just telephoned me about it. He said they were holding a ministerial council about it."

M. de Saint-Imier could no longer doubt that the news was true. Mme. de Lezigny's brother was an ambassadorial secretary attached to the foreign ministry, and would know at first hand.

The princess went on:

"My brother told me I ought to join him. But I didn't dare to go out alone."

"Would you like me to accompany you as far as the Quai d'Orsay?"

"I would like it very much. With you, there would be nothing to fear."

The marquis bowed.

On the sidewalk, as he bent to open the door of his car to show the princess in, he was rapidly surrounded by the vigorous agents of the secret police, while the head of the detachment made his excuses to the Princess de Lezigny, explaining to her that he had a warrant to bring the Marquis de Saint-Imier in for questioning.

Fixing his monocle in his eye the latter turned to the princess:

"I am overwhelmed with regret at not being able to accompany you," he said with a smile. "But you see, what these gentlemen ask is impossible to refuse. I must go with them. Farewell, madame."

He saluted with the grace of a gentleman and mounted into his own car between two of the detectives while a third took his place in the rumble-seat.

Ten minutes later, the Princess de Lezigny was recounting this incredible story to her brother—to wit, that the most elegant man in Paris and perhaps in the world, had just been arrested. The director of the secret police must certainly be crazy.

When she learned the truth, she had not even the strength to be surprised; she fainted with terror. She had been alone with the assassin for some minutes. She had placed herself under the care of the monster to drive about Paris. The story spread rapidly, and as soon as the unfortunate princess recovered from her faint, she was surrounded by an army of reporters, all of them wanting interviews with the woman who had seen the bandit arrested.

But the journalists, who had been prevented by the fire in the Saint-Imier mansion from visiting the secret stairway, the laboratory and the bedroom with its curious decorations, did not get all they hoped for.

In the first place, to avoid the popular tumult, the arrest of the marquis was not officially announced until late at night. And the reporters could not know of the strange scene, the absolutely incredible scene that took place before the examining magistrate.

M. Blondel was preparing to interrogate the Marquis de Saint-Imier arrested at the Cèrcle des Arts, when the Marquis de Saint-Imier arrested in the Rue de Varenne was brought in.

Very much astonished the honorable magistrate said to himself that one of the two was obviously not the man wanted. Which? It ought not to be too difficult to find out. Some of the policemen had made a mistake; that sort of thing happens every day. When they were confronted with each other, the unfortunate individual who had the bad luck to resemble the marquis would be sent on his way, and the blunder of the police would be made good as soon as discovered.

But when M. Blondel summoned the two, and saw before him two identical Marquises de Saint-Imier, his stupefaction passed all bounds. He looked at his bailiff, who as astonished as he, stood by with his mouth open. Never, within the memory of the judge, had two accused persons resembled each other so much as this pair. Physically, the resemblance was absolutely perfect. And what finally upset the magistrate was the fact that the two were dressed in exactly the same manner. Everything, even in the smallest details, was repeated.

"My word!" said M. Blondel, rendered severe by his doubts, "has this been arranged in advance? But—but—they are absolutely interchangeable."

And the judge, leaning over to the bailiff, whispered an order. Immediately two athletic policemen placed themselves, one behind each of the duplicate marquises.

But the judge reassured himself with the thought that the false one would certainly not wish to be confounded with the genuine.

CHAPTER XX

Escape!

● It was a delightful illusion. The two marquises, identical in face and in costume, were also identical in their attitudes. The first Saint-Imier seated himself calmly in the chair that was placed for him; the second Saint-Imier, in the same hundredth of a second, did the same. With the same gesture, they adjusted their monocles in their eyes; together they crossed their right legs over their left, and waited, the same ironic smile on both visages.

M. Blondel had recovered his equilibrium. He threw a glance at the bailiff which signified:

"Patience! They'll come to their oats."

And he proceeded to the questions of identity.

It was dumbfounding. The two marquises replied at the same time, articulating exactly the same words in the same voice, with the same intonations so exactly timed that one would have said it was a single voice that answered.

M. Blondel wiggled his heavy eyebrows, and turning to the one on his right, he said drily:

"You ought to understand, both of you, that it is not to your interest to perform such tricks before the bar of justice. The charges against one of you are exceptionally grave. I must recall to you that these questions of identity are for the purpose of distinguishing the innocent from the guilty person."

The facts were self-evident. Since it was impossible that there were two copies of the Marquis de Saint-Imier, it must be that one of the two before the judge

was playing a joke of a too original character, abusing his incredible resemblance to the true marquis. Saint-Imier's double was amusing himself? Well, he would not amuse himself for long. He risked having to pay a high price for his fun.

M. Blondel went on:

"I address myself to you at my right. Are you the Marquis Guy-Gontran de Saint-Imier?"

The two marquises inclined their heads with the same movement, and replied in unison:

"I am the Marquis Guy-Gontran de Saint-Imier, living at the Rue Cortambert, Paris."

"But I said nothing to you!" cried the judge to the marquis on his left. "Your turn will come, be quiet. It's not worth the trouble to tell me, both at once, that you are the Marquis de Saint-Imier. The Marquis de Saint-Imier is in danger of losing his head."

These words should have shot fear into the hearts of the two mummers. They replied only by the same smile of ironic appreciation. M. Blondel, who had expected to interrogate the two together, before bringing in the evidence against one of them, was disconcerted for the moment.

Was he dealing with a pair of accomplices? But in that case, what was their game?

He repeated his question to the prisoner at the left:

"Do you declare that you are the Marquis de Saint-Imier?"

The two voices replied as one:

"I declare that I am the Marquis de Saint-Imier."

M. Blondel was tempted to have the guards take away one of the two. But he gave over the idea, persuaded that the extravaganza could not be of long duration. Two individuals claimed the same personality they would therefore be subject to the same punishment, and let them beware!

And the judge put a question that should end the difficulty:

"Where were you arrested?"

The two marquises made together this stupefying response:

"I was arrested first in the Cèrcle des Arts in the Rue Presbourg, and then in the Rue de Varenne, in front of the Lezigny home."

This was really too much. What—the two individuals before the magistrate pretended to be a single person? Evidently, the pretence could not be sustained. Nevertheless, they acted, they spoke as though the pretence were a reality. Moreover, they had the air of being ignorant of each other's existence; the judge noticed that they never looked at each other. But the synchronization of their replies, made in the same words, with the same intonations of the voice, remained absolutely perfect. One would have said they were two automata, fabricated in series, and wound up so as to utter the same words.

M. Blondel again addressed himself to the marquis on his right:

"You were really arrested at the Cèrcle des Arts and then again in the Rue de Varenne?"

"Yes," declared the two prisoners together.

The judge lifted his head and said to the stenographer:

"Write down the double response."

"You are indeed the Marquis de Saint-Imier? And you, too, you are the Marquis de Saint-Imier?"

"I am the Marquis de Saint-Imier," repeated the two.

"In that case," pronounced the judge, "for the first time in my life, I am going to give one order for two persons. Do you know of what you stand accused, gentlemen?"

● The two marquises lifted their heads, adjusted their monocles and replied in unison:

"Monsieur, do not give yourself the trouble to insist. I recognize the facts."

M. Blondel could not restrain a movement of irritation:

"Be careful. The facts are of exceptional gravity. You cannot both be responsible. Look—you still have time to think it over between yourselves."

The two marquises had the air of understanding no better than if M. Blondel had spoken in Hebrew. Collective warnings decidedly were not going to have any effect. The judge came back to the direct method, and this time, turned to the one on his left.

"You know, then, what it's about. Endangering the safety of the state; collective homicides . . ."

The two prisoners interrupted together:

"I know all that. Haven't I told you, monsieur, that I recognize the facts?"

And in a tone of mockery, the two voices continued:

"You speak, Monsieur Blondel, of acts against the safety of the state. It is hardly sufficient. I wished to destroy, not the state, but the entire world. Not merely the world, but the universe. That is what I tried to do. The rest is only a detail. I suppressed two or three scoundrels who insulted me in the streets. I have also killed a few children—it's a detail, I repeat. Your laws are so stupid that this last act has become the principal accusation against me. It's enough to make one laugh. Monsieur Blondel, if you please, consider me as the assassin of the whole human species. You will tell me that in fact, I have assassinated only a small part of it, and the intention does not make the fact.

"But, yes, I tell you. That which I have not yet realized, I will soon accomplish. You can thus consider that I am guilty, not of killing a score of humans but of millions, since I am going to make everything living disappear; then everything which contains the seeds of life. In a word, I admit all the charges that can be brought against me. I admit anything you wish. I declare that I regret nothing, and that I will complete my program. Will that do, monsieur? Do I make myself clear? I am prepared to repeat these declarations to you if you have not understood them. But hurry up, for otherwise I will tell you nothing."

And the two prisoners made a slight bow in the direction of the judicial seat.

M. Blondel was one of the most distinguished magistrates of the bench. He had handled numbers of celebrated cases. But never had he heard of a double personage charge himself with such audacity and such cynicism. As he heard the accusations the accused made against himself, he felt the hair on the back of his neck rise with terror. The two men before him were mocking at justice. But they were no more than men. Their double comedy could not last much longer; the rude hand of justice had been placed on their

shoulders, and justice would have the last word in this singular dialogue.

"They are held," he thought, and this thought helped him to keep his head cool; for a magistrate must never lose his head. The marquis and his companion were outraging justice—very well, justice would make them pay. M. Blondel replied:

"I take cognizance of what you have told me, both of you. But I doubt, if you persist in that attitude, whether you will find a lawyer willing to defend you."

This unpleasant prospect did not seem to disquiet the two prisoners. Seated before the magistrate, they kept their easy and impertinent calm, which they had kept since the beginning of the questioning. They never looked round at the guards placed behind them. The bailiff did not seem to exist for them. Nevertheless, when the judged announced that the record of their declarations was about to be read, they answered, always in perfect unison:

"Don't trouble yourself, monsieur. But you may add that I declare this also—the people of Paris have sacked my mansion and set fire to it—"

M. Blondel interrupted, stupefied:

"What? What are you saying?"

"The simple truth. The mob has set fire to my house."

"But how did you know that, since you left before the crowd arrived, and have not returned to see the spectacle of its just indignation?"

The judge's question brought no reply. The two marquises went on:

"I could complain of a crime committed against me also. Well, I do not complain. The imbeciles who believe they have disarmed me will soon discover that they have not limited my activities in the least, and I will now be pitiless: Paris will be destroyed! Every Parisian will be destroyed; not one will remain alive. But, you may be certain, Monsieur the Judge, that I will act correctly. Before striking, I will warn my victims. These victims will believe they will have time to escape. They will be very much surprised to find themselves unable to move. Yes, everyone will have time to fly, and no one will be able. Don't you find the situation a bit comic, Monsieur Blondel?"

And the two sinister personages, in the presence of the judge, the stenographer and the guards, began to laugh:

"Enough of this cynicism!" declared M. Blondel, with a voice of thunder. "Stenographer, give the declarations to the prisoners to sign. Committed for trial!"

The stenographer had the impression that they would refuse to sign, on the usual pretext of prisoners who are interrogated without their lawyers being present. But the legal formalities must be observed, even with monsters, and he half rose to hand the pen to the nearest of the pair.

He fell back into his seat with a cry of astonishment and terror which was echoed by the judge and the guards.

The two marquises had disappeared! But their laughter was still vibrating through the room, and neither window nor door had been opened.

It was necessary to admit the fact; the two marquises had escaped and the escape had been effected in a split second.

CHAPTER XXI

Mazelier Sacrifices His Beard

● The escape—or if one wishes, the double escape—of the Marquis de Saint-Imier, was not printed in the papers. The public supposed that the fantastic and redoubtable individual was under lock and key awaiting the inevitable hour of punishment. Nobody was surprised at the slow course of justice; everyone knew that she goes with one foot lame, especially when the magistrates have so many mysteries to solve. But everyone was certain now; he, who had so audaciously announced his intentions over the loudspeakers, the noble who was now known under the name of "the Radio Terror," was awaiting his punishment.

The greatest tranquillity reigned in Paris. Thanks to Mazelier, normal life went on once more; the barrier of invisible radiation had been lifted from the capital and from the frontiers; there remained of the whole fantastic affair only the memory of an immense upheaval. And no one suspected the really decisive role that Mazelier had played in the solution of the problem. Already the story of the blockade was half forgotten. But, what no one did forget, what aroused the indignation of everyone when he thought about it, was the silent and cowardly assassination of the nine children. But now, thanks to the outburst of an angry people, all danger seemed over.

Three or four days after the burning of the Saint-Imier mansion, the newspapers contained the following note:

"A terrible accident, which has provoked a considerable stir in scientific circles, occurred three or four days ago at the Office for Scientific Research, Avenue des Champs-Élysées. M. Gribal, the distinguished collaborator of the director of the office, M. Mazelier, was electrocuted in the course of an experiment. There have already been several accidents of this character, particularly in the field of radio-therapy, and this makes only one more martyr to that science.

"M. Mazelier, himself, was gravely injured in an explosion following the accident. His laboratory was wrecked. With M. Gribal's assistance, he was engaged in studying the forms of radiation which brought about the blockade of Paris and of the borders. The distinguished scientist has been replaced as director by the well-known chemist, M. Reynier-Vitral."

In a little house hidden away in the bois of Ville d'Avray, two men were reading this note, and one of them was laughing.

"Well, I'm dead now, my dear chief. You have already resuscitated me twice, but I wasn't officially killed then. How are you going to bring me back this time?"

"Patience, Gribal! The moment has not yet come to show ourselves in Paris. It is absolutely necessary that he think we are out of the way."

"Parbleu! Do you think he will dare to continue the combat?"

Mazelier replied:

"I don't think it; I am certain of it. The man who was able to escape in that strange manner from the examining magistrate will never be wholly disarmed."

"All right. But he must be a little worried. And he

knows very well they are looking for him without officially announcing the fact. His photograph is everywhere."

"Yes. And he is nowhere. It bothers me that he doesn't come out."

"He's hiding."

"No, preparing for a new attack."

"But his laboratory is destroyed. What can he do without his apparatus. Nothing!"

"I hope so. Meanwhile, let's be on our guard."

"All right, my dear chief. We'll watch. But I assure you that I do not partake of your fears. And the proof that I am right is that Roland never brings us the slightest bit of news. I assure you, I think we have gotten rid of that titled scoundrel for good. He has all Paris against him."

"We can wait, Gribal. But be careful."

"I will be. Just the same I would like to walk about Paris."

"I forbid you."

"And I will obey. What can I do anyway—I'm dead. It annoys me a little that no one has noticed I have had no funeral."

"You can be sure that *he* has noticed it."

"Oh, come. He can't do everything. He doesn't know everything. He's only a man, after all."

Mazelier lowered his voice:

"Listen, Gribal. There are certain moments when I doubt even that. Look—remember the circumstances of that double arrest. Those two doubles before the judge. If the fact were not certified to me by the President of the Republic, I wouldn't believe it."

"And I," said Gribal, "I don't believe it yet! Well, since you wish it, we will wait."

● The wait was prolonged for a month more. Roland Duplay, who could not be known to Saint-Imier, was the news-agent between Mazelier and the Élysée. Every evening he came to Ville d'Avray, and every evening he came without any news of importance. He was also given the duty of watching discreetly over the residence of Mme. Roberval in the Rue Godot-de-Mauroy. This watch also yielded nothing. The marquis had apparently ceased to hate the woman he had never ceased loving.

But one day Roland came earlier than usual, bearing strange news, but news not at all well verified.

A servitor of the Ministry of the Interior swore that he had seen the marquis in the very office of the minister. Two members of the Cércle des Arts declared that they had seen him on the same day, at the same time, appear in the foyer of the Opera to disappear again immediately.

Gribal heard the news with a laugh:

"*Parbleu!*" he said. "It's not ordinary at least; a collective hallucination. You will hear tomorrow that the marquis has been seen in Rome, in Chicago, at Timbuctoo, and at the South Pole. And always at the same time."

"But," interrupted Roland timidly, "I think I saw him myself. Not at the same time but about two hours later."

"What, you too, Duplay? I should have thought you immune to such delusions."

Mazelier asked the young man:

"Where did you see him?"

"Rue Godot-de-Mauroy, twenty yards away from Mme. Roberval's house. I assure you I was wide awake."

It was evident that Mazelier did not partake of Gribal's skepticism. On the contrary, he gave decided attention to the words of the young workman.

"And this . . . this vision, did it last long?"

"Not more than a couple of minutes."

"The marquis went away. In what direction?"

"Monsieur, he didn't go away. He simply disappeared."

Mazelier did not laugh. Gribal became impatient.

"Oh, we can't discuss manifest impossibilities," he said. "Come, chief, we—"

Mazelier interrupted:

"I think, Gribal, that I have never been able to see the limit which separates the possible from the impossible."

"Then you believe that several copies of the same individual can appear simultaneously in Paris?"

"I believe nothing, my friend. I deny nothing, either I think only of well-attested facts, whatever they may be."

Gribal was a man of good sense. It was difficult for him to admit anything but the most obvious explanations of a phenomenon.

"This fact," he said, "can be explained simply, in two ways. For example, if the marquis has some accomplices who imitate his appearance and bearing, and if they show themselves in different places where he certainly is not present—"

"This hypothesis won't go, Gribal. The marquis has no accomplices."

"What do you mean, no accomplices? He has at least two—the Chinese chauffeur, that's one—and that miserable Suzie. But there is another supposition, equally reasonable."

"What is it?"

"That the Marquis 'Radio Terror' has become a popular type like Cartouche and Bluebeard. Jokers are amusing themselves by making up to resemble the Marquis de Saint-Imier, and startle people around them. There are always idiots who would think that sort of a masquerade funny."

Roland approved:

"It's possible," he admitted. "I thought of that, too."

Encouraged, and thinking he had now convinced Mazelier, Gribal continued:

"You speak of facts. Well, I'll give you another. Your revelator for radiation has been silent ever since they sacked the marquis' mansion."

"Yes," admitted Mazelier, "nothing from that quarter since then. And my revelator is more powerful than it used to be. Saint-Imier cannot emit any forms of radiation without my hearing them now."

"Well, then? If the marquis has not made a counter attack, it is because he has been reduced to powerlessness. Otherwise, as angry as he certainly must be, we would certainly hear from him. In consequence—"

"In consequence—?"

"*Parbleu!* I repeat it—we can go out and take the air and not stay shut up here. And that poor Mme. Roberval, who remains shut up; won't you lighten her captivity? We are prisoners; it's simply ridiculous."

"You don't fear that the man who almost killed you will take the offensive again?"

"Not for a minute. He got his knock, that's enough to put some sense into his head."

"It should be, anyway. But it doesn't matter. Listen, Gribal, we must wait. And you Roland, tell Mme. Roberval, from me, to be more careful than ever."

● Gribal knew very well that Mazelier, once he had made his decision, would not alter it. Moreover, the scientist no longer heard his protests; he was sunk in a reverie so profound that he did not even notice when Paulette came in to ask the latest news from the Rue Boissy d'Anglas.

Three days went by like this, bringing no change in the situation of the voluntary prisoners. One afternoon, about three o'clock, Mazelier and Gribal were at work in the laboratory where the scientist had installed his latest pieces of apparatus.

All at once the revelator began to vibrate.

"Oh, oh, it's waking up," cried Gribal, paling a trifle.

Mazelier was inspecting the movement of a needle across a dial and noting down figures.

Ten minutes later, another ringing from the revelator. No further doubt possible; the marquis was neither disarmed nor inactive. He, alone, could have emitted the radiation which had stirred the revelator from its sleep. Mazelier and Gribal looked silently at each other, without the necessity of speech. What would Roland Duplay have to tell them?

He came in earlier than usual.

"Well, well?" questioned Gribal impatiently at his appearance.

"Nothing serious," replied the young man, surprised that his interlocutors already knew that something had happened. There was a little fire at Mme. Roberval's, but they got it out quickly."

"At what time?" asked Mazelier.

"Ten after three or thereabouts."

The engineer and the scientist exchanged glances.

"What caused the fire?"

"Nobody knows. It was queer. The fire started in her bedroom. A short circuit, they think."

"And at exactly three o'clock," Mazelier persisted, "didn't anything happen?"

"At three o'clock? No . . . Wait a minute, I forget. Something quite sensational did happen. But something that doesn't touch us at all. At three o'clock, as the Minister of the Interior rose in the Chamber to make a speech, he fell dead."

Gribal was disconcerted:

"At three o'clock," he cried, "that must be it! But why should the marquis wish to strike down the Minister of the Interior rather than anyone else?"

"What, Monsieur Gribal, was that death the work of the marquis?"

But it was Mazelier who replied to Roland:

"Yes, my boy. And if you wish to know why, remember that the Minister of the Interior is the man who is said to have led the cabinet to pursue the judicial inquiry against Saint-Imier. Do you remember, Gribal? It was the Minister of the Interior who said to his colleagues, 'If every other murderer only knew that a sure means of avoiding suspicion was to invite you to dinner!' He has just died for having made that bright remark."

"And we, Mazelier, what are we going to do about it?"

"We? I think we have waited long enough. We must get busy without losing a minute."

"What?" Now that there is really danger, we are going to go out?"

"Exactly. The moment has come. Roland and I, we will go into Paris together in a few minutes. We will separate at the Gare Saint-Lazare. Roland will tell Mme. Roberval that by tomorrow she will be at liberty to come and go as she pleases. Understood? Whatever happens to her, she is never to forget that she is really safe and that unseen protectors are watching over her. Right?"

"Right, Monsieur Mazelier."

"Then, Roland, you will meet me again about eight o'clock this evening in front of No. 20, Rue Fabert. Ah, wait a minute . . . as you probably will not recognize me, I had better show myself to you as I will appear when I meet you there. I have already camouflaged myself once,—not so, Gribal? And they picked me out right away. But this time! You will see. A moment, if you please."

Mazelier went into his room. Fifteen minutes later he came back, quite unrecognizable. He had cut his beard and curled his hair. No more and no less, but the change was extraordinary.

"Who disguises himself too much, does not disguise himself at all," he remarked with a laugh. "That's axiomatic. Don't I look like a retired mailman, Gribal? Well, Roland; come along. After meeting in the Rue Fabert, we will take a little walk toward Grenelle. And be sure to have a gun with you."

"And me?" asked Gribal. "Are you going to leave me shamefully inactive?"

"You, my dear friend, you are dead. Don't forget it. There's nothing more compromising than to go for a walk in Grenelle with a dead man! And besides, you can't change your face as easily as I can. Tell me, am I ugly enough?"

The fact was that Mazelier, without his little beard and corona of white hair, was far removed from manly beauty.

Gribal resigned himself to inaction with a bad grace. He had to give in, however, without understanding the hazardous project on which his chief was engaged.

CHAPTER XXII

Triplex

● Ghislaine Roberval had attached no particular importance to the minor fire in her bedroom. She received with an inexpressible sense of relief the message from Mazelier. Yes, beginning the following morning, she would go out to fulfill her duty of placing new flowers by the tomb that held the remains of Gabriel de Neuville.

The next morning, about eight o'clock, she called to a taxi which was passing her door. To her great surprise, the chauffeur—he had doubtless misunderstood her directions—took the Rue Royale and went toward the Place de la Concorde. That was the wrong direction. She knocked on the window; the chauffeur half-turned. He had a singular face, yellow of tint, with a

cruel mouth.

Where had Ghislaine seen that mask of a face before? All at once she remembered—the Chinese chauffeur! The familiar of Saint-Imier. She gave a cry of terror, and half rose to leap from the car, in spite of the speed with which it was going down the Rue de Bourgogne, when a voice seemed to murmur in her very ear:

"Don't be afraid! There is not the slightest danger."

She almost fainted with terror. The marquis was seated by her side! Ghislaine tried to open the door at her side; she did not succeed; the door seemed to be locked solidly into the side of the machine. She reached for the door on the other side, and then fell back with an exclamation of terror. For her arm had passed through the body of the marquis as though it were not there, as though it were nothing but a ghost. And the marquis, his hands on his knees, remarked calmly:

"No danger, I assure you. You will understand that I have taken every precaution."

The precautions signified that any attempt at escape would be futile. Trembling, Ghislaine sank back in the corner of the car, and then recalled, suddenly, the message from Mazelier "no matter what happens, unseen watchers will guard you."

But how had she been so easily trapped?

Tearing along, as though it were running a race, the auto did not stop till it reached the Rue Javel, where it pulled up before a sordid-looking building. The marquis got out first, and with his characteristic politeness, removing his hat, said:

"Will you follow me, my dear? I would like to have you attend my house warming in my new home."

What audacity! Ghislaine leaped from the vehicle, resolved to fly down the street, to cry for aid, for there were some passersby in view.

But she neither cried nor fled; she followed her captor, trembling, as though enchanted, dominated by some inexplicable force that rendered her as inert as the hands of a watch.

Saint-Imier, preceding Ghislaine, and by this sign, certain that she was following him, went up a dark and narrow stairway. Decidedly, his new house had not the elegance of the old. Nobody had apparently paid any attention to the strange couple. The marquis marched gaily ahead with long steps; Ghislaine following as rapidly as she could not knowing by what miracle she was able to move limbs paralyzed with fright.

At the fifth floor, she felt a sudden return of her forces, and would have turned and fled; and then she turned back again with an exclamation of horror. The marquis was behind her! She went up another step or two—the marquis was before her. The two Saint-Imiers, who had already been seen by the examining magistrate, had surrounded Ghislaine, and she, overcome with terror, was sure that nothing could save her. And the ironic voice of her double kidnaper announced:

"Don't hurry, my dear. We have all the time in the world. Besides, it's only two more flights to *our* apartment."

The terrible ascent went on. On the landing of the seventh floor, the trio halted. Ghislaine no longer dared to look at her captors. Finally a narrow door opened, and a black in livery, with a silkily polite voice, bowed before her:

"Enter, madame. We are pleased to have the honor of your presence."

Ghislaine went in. She took several steps and found herself in a room only feebly lighted. Windows and blinds were closed tight. Suddenly, she perceived that she was alone. What had become of her two guardians? She did not have time to look for them; at the other end of the room a door opened, and the marquis—a single marquis—came in.

"Good afternoon, Ghislaine," he said, as though he had not seen her before. "Sit down, I beg you. Are you not a little astonished at what has been happening to you?"

She did not answer. First, because she did not wish to answer; and secondly, because she was trying to assemble her whirling thoughts. It seemed to her that the man who stood before her had a more sonorous voice, a more lively eye, than he—or those who had accompanied her. Yes, she might almost have said that the others were his reflections.

By no means disconcerted by the silence of his victim, and at ease as much as in the salons of which he was an ornament, Saint-Imier seated himself in an armchair beside a table surmounted by gleaming instruments.

"You permit?" he murmured and lit a cigarette. Then:

"Listen, Ghislaine, I owe you an explanation. I will give it to you completely. You must have been astonished, in your taxi as well as on the stairway, to see me appear, and to redouble myself the better to escort you up the stairs. Here, look at this machine."

● Ghislaine noticed on the table a sort of rectangular box, and emerging from the box an object, which resembled a metal ball with a wire, which ran round the outside of the container.

"Look," said the marquis, "I close a contact here. I turn this button. Observe the lights that appear around the ball and the velocity with which it turns. You don't understand what it is for? Well, it produces two more Marquises de Saint-Imier, that's all. Oh, *Mon Dieu*, yes, it's perfectly true, as I have the honor of telling you. I am seated comfortably in my armchair. I put this apparatus in motion and two emanations, two projections of myself, are materialized. Isn't it practical for making calls you don't care to make in person?"

He laughed; and then a note of pride crept into his voice:

"Very convienient," he went on. "My projections go immediately to any spot where I want them to go; whatever anyone says to them, I hear it here; whatever is going on around them, I see; whatever I wish them to say, they say. In brief, they are two other selves which I can cause to appear and disappear as I wish. They have only this disadvantage, that both of them must act alike. Do you understand, madame? In a few minutes, we will have a little experiment with them, with the object of amusing you, madame."

The last words were pronounced with such an in-

definable accent of cruelty that the blood seemed to freeze in the veins of the prisoner.

He laughed gently, exaggerated a trifle his super-polite air of a man of the world:

"If you permit, we will begin now. And you will see."

He approached his box, made a contact, turned a button and then another. The ball began to turn; colored balls of light appeared, surrounding it, gyrating in the opposite direction. A soft purring sound filled the room. And slowly, out of the whirling clouds of light, the two personifications of Saint-Imier appeared, immobile before him like two well-trained servants.

"Do you know where I am going to send them?" asked Saint-Imier, addressing himself to Ghislaine. "They are going into various well chosen localities in the world of society to tell a few little stories about you and your private life. We will start with that, my dear. They will add that you are in a sanitarium, recovering from the effects of your last excesses. And it was you, of course, who furnished me with the list of children destined to be killed."

"You scoundrel," cried Ghislaine.

"Oh, there will be lots of other touches, my dear. And in any case, with my two agents, here, who can penetrate any doors, and who can speak to anyone and be questioned by no one, without my permission, I will be surprised if I do not finish by laying on your shoulders the responsibility for what has happened."

He turned the little lever.

The two phantoms did not move.

An exclamation of surprise escaped the marquis. But he did not glance at the two reflections of himself which had risen before the astonished eyes of Ghislaine.

"What's wrong now?" he said aloud, bending over the opened box.

"I ought not to keep you in ignorance, Ghislaine. It was I who lit a little fire for you yesterday afternoon. If you hadn't gone out this morning, there would have been another. I was intending to smoke you out, do you see? Ah, yes, and another thing. I believe that about the same time, I damaged the Minister of the Interior who was so injudicious as to defend your interests a little too strongly against me. I gave him the same dose that Gabriel de Neuville got. You remember? Would you like me to show you how it's done? I can try it on some other subjects."

● Ghislaine rose. The marquis turned toward her.

"Ah, dear lady," he said, "we're really going to have a good time. You can't go out, you know, but you can do anything you like in here."

He threw the little lever again. The two phantoms moved no more than they had the first time. The marquis cried, impatiently:

"This is annoying. There is certainly something wrong with this machine. Well, we'll hold over the little trip through the Paris salons for another day. I must return the emanations of my corporeal body to nothing."

He broke the contacts, an act which should have produced the immediate disappearance of the two. But instead of vanishing into thin air, they advanced a step toward the marquis, and cried in a single voice:

"I am the Marquis de Saint-Imier!"

The genuine marquis did not lose countenance. He remarked:

"Well, well, and now we have talking machines that express opinions, and in voices unlike their master's. It's queer to say the least."

The two reflections turned toward Ghislaine together.

"That woman is mine," they declared.

And they continued to advance toward Saint-Imier, who moved back a step.

"What a good idea!" he said. "That's it, Ghislaine, how would you like to belong to two Saint-Imiers?"

But the two apparitions, now become rebels to their creator, continued to advance without another glance at the young woman. The moment arrived when the marquis found himself so pinched between his two doubles that it was only by physical effort that he could escape them.

In an instant the fantastic adventure became a drama. As though in a frightening dream Ghislaine found herself the spectator of a combat between the two copies of the man and the man himself. Three Saint-Imiers were fighting among themselves with an extraordinary violence. The marquis was like a man fighting with his image in a mirror; every blow he struck was returned to him with double force; and nothing could be stranger than this triple combat in which two members acted exactly alike. Saint-Imier, his face showing his sudden fright at the discovery that the beings he had created, had, like himself, flesh and bones, essayed to seize one of them by the throat; but as he did so, his own throat was seized in a double grip and he fell at the feet of Ghislaine overwhelmed with horror.

Whether the death of the marquis brought about the disappearance of his reflections or not; or what strange medley of projections and images had brought the thing to pass, Ghislaine did not know. She knew, only, that in an instant she was alone, and at her feet was the dead body of the "Radio Terror."

Alone? No, for the door through which the marquis had come, opened again and through it appeared—Mazelier and Roland Duplay!

For the scientist had gained his greatest and final victory. Substituting, with more powerful radiation, his own control for that of the marquis, he had directed the phantom figures against their creator, and, at bottom, the combat among the three Saint-Imiers had been not a combat but a suicide.

Before the corpse of the aristocratic and heartless scientist, Roland paused a moment to say:

"At last his victims are avenged!"

But Ghislaine added in a tone of sadness:

"Alas! Your vengeance does not give me back those I weep for."

Mazelier did not try to console her. Without a word he took her arm, and the three of them left without even another glance at the remains of the man, who, made mad by pride, thought of accomplishing everything by intelligence without the admixture of a generous heart and clean hands.

THE END

Science Questions and Answers

This department is conducted for the benefit of readers who have pertinent queries on modern scientific facts. As space is limited we cannot undertake to answer more than three questions for each letter. The flood of correspondence received makes it impractical also, to print answers as soon as we receive questions. However, questions of general interest will receive careful attention.

Temperature In Vacuo

Editor Science Questions and Answers

Why is space always supposedly at a temperature of absolute zero? If outer space is a vacuum, how could it have a temperature?

Tom Shepherd,
St. John's Military Academy,
Delafield, Wis.

(The confusion about the temperature of space, that has affected even our authors, arises from a lack of knowledge of what "the vacuum of space" really is. Naturally a vacuum has no temperature, only material objects that might be placed in that vacuum have the quality that might be called temperature. For example, if a thermometer were placed in the vacuum of space the temperature reading would not be that "of space" but would be that of the thermometer itself.

Now, the temperature of any object in space would depend upon three things: 1. Its original temperature; 2. The amount of heat received; 3. The amount of heat radiated.

The earth is such an object. It is continually receiving heat from the sun, and continually radiating heat into space. But since the rate of reception of heat, and radiation have become almost equal, the earth maintains a fairly constant temperature.

Now if a warm body were taken far enough away from the sun, say some 18,000,000,000 miles, so that it received very little heat from it, it is probable that its heat would be gradually radiated away until its temperature reached the low point where it was again receiving heat as fast as it was radiated, and its temperature would become stable at that low point. Naturally the cooler the body became the slower the heat would be radiated. But if this heat reception from the sun were considered almost zero, then in a long space of time, the body's temperature would become extremely low; it might tend to approach absolute zero.

If one merely thinks of the universe as composed of a great aggregation of bodies, radiating and receiving heat through the vacuum of space, the problem presented here would become more simple and understandable.—*Editor.*)

Is the Cosmos Limited?

Editor Science Questions and Answers:

In your wonderfully enlightening column would you please answer the following questions:

1. Is the cosmos in its totality limited; or is it just our universe that is limited, and that other universes exist besides it?

2. Are nebulae solar systems in the making or are they other universes?

Robert Flaherty,
Boaz, W. Va.

(Both questions can be answered as follows: The order of things in the cosmos starts, let us say, with a sun, surrounded by planets. This is a solar system. A number of solar systems are often found clustered together and are called star clusters. The earth and many of the stars seen with the naked eye are part of our star cluster. Star clusters tend to combine into a higher unit called galaxies. For example, our star cluster is part of the galaxy called the "milky way." There are millions of suns in the milky way, which is a watch-shaped unit, some 200,000 light years across. Other galaxies or nebula take the spiral form (the great Nebula in Andromeda). There are the diffuse nebula (great Nebula in Orion); planetary nebula (ring nebula in Lyra) and dark nebula.

These nebula or galaxies are in some cases millions of light years away from the milky way; and some are so far from any other stellar matter that they are called island universes.

However, there is still a higher unit of organization, a group of galaxies called a super-galaxy. Such a known one is composed of some fifty galaxies.

The entire cosmos is composed of these galaxies and super-galaxies, united in some form of organization that we cannot as yet guess. Astronomically we have no means of determining the size and extent of the cosmos. We are obliged to turn to theories like that of Relativity. Einstein assumes a cosmos "finite but unbounded," perhaps of a somewhat spherical shape. Its outer limits might be taken up with straggling masses of matter too far away from the rest of cosmic matter to be greatly affected gravitationally. The diameter of this assumed universe might be some 500,000,000 light years.—*Editor.*)

Obtaining Dicyanin

Editor Science Questions and Answers:

In the fall of 1930 or spring of 1931 you published an editorial about "life waves" emanating from living people. You stated that these waves could be seen if viewed through gelatine that contained dicyanin, a dye. I have become interested in this line of experimentation and would like to get some of this dye. Could you tell me where it could be obtained?

J. Templier,
Chilliwack, B. C., Canada

(The editorial in question in the June, 1931, "Wonder Stories," entitled "Wonders of the Human Body," stated that some investigators found "that the human aura could indeed be made visible in a dark room; not however to the naked eye. It was necessary to view the body through a chemical solution in a glass container. This chemical dye, a coal tar product, is called dicyanin. Experiments which have been verified many times have been made whereby the aura, actually extending from the human body from one to twelve inches has been observed and the discoverer of the process, Dr. Walter N. Kinler, of St. Thomas' Hospital, London, actually can tell the state of health of an individual by merely observing the color and size of the aura."

This has been given as our information on the subject. We do not guarantee that it will work. However, the material can be obtained by writing Herman A. Metz & Co., 320 Fifth Avenue, New York. They will quote the prices and terms for dicyanin.—*Editor.*)

Sources of Radium

Editor Science Questions and Answers:

Are there any other substances besides pitchblende from which radium is extracted? What is the so-called "radium clock?"

Meyer Christie,
Brooklyn, N. Y.

(Radium has been found widely distributed in minute proportions in many rocks and minerals, in sea water and in the waters of certain mineral springs. The chief source of radium has been the minerals containing a high proportion of uranium, principally pitchblende; and the present supply has been almost entirely obtained from the insoluble residues remaining after the treatment of pitchblende for the commercial extraction of uranium.

In other words, radium, which is a product of the disintegration of uranium, is found where uranium is also found. Uranium itself is never found in its pure state, but always in combination with other minerals. The amount of radium present in such uranium minerals depends upon the amount of uranium present, one part of radium being associated with 3,000,000 parts of uranium. There are forty-five rare minerals in which uranium, and therefore radium, is found. Some of these are:

Thorianite, gummite, pilabrite, mackintoshite, walpurgite, carnotite, rutherfordite, thorite, fergusonite.

The extraction of radium from these minerals is a long, complicated and costly process, and even then the product is not pure radium but a radium salt, such as radium chloride. By an electrolysis of the salt and distillation of the resulting radium amalgam in hydrogen, a residue of metallic radium can be obtained.

The principle of the radium clock is based on the steady, unvarying disintegration of radium, during which it emits among other things beta-particles or electrons. A radium compound is

Showing the radium clock as described in the text. From "Foundations of the Universe," by M. Luckiesh, D. Van Nostrand Co.

placed in a thin glass tube (B as shown in the drawing) which is supported by a quartz rod, A, which is not a conductor of electricity. The negative beta particles are expelled through the thin walls of B, leaving the radium compound and gold leaves C, positively charged.

The leaves C gradually separate by repulsion as the positive charge accumulates until they are finally discharged when they touch the metal tube D. They collapse and the same cycle is repeated. The period of this cycle is practically constant for years, since it takes 2500 years for the activity of radium to decrease to half value. The period of separation of the gold leaves becomes therefore a very close index of time. Since a billionth part of an ounce of radium will affect the gold leaves, it is a very sensitive indicator also of the presence of radium.—*—Editor.*)

READERS

If you like "Science Questions and Answers" in this magazine, you will find in our sister magazine, EVERYDAY SCIENCE AND MECHANICS, a similar department, greatly expanded called "The Oracle." Look for it, you science fans!

IN THIS department we shall publish every month your opinions. After all, this is your magazine and it is edited for you. If we fall down on the choice of our stories, or if the editorial board slips up occasionally, it is up to you to voice your opinion. It makes no difference whether your letter is complimentary, critical, or whether it contains a good old-fashioned brick bat. All are equally welcome. All of your letters, as much as space will allow, will be published here for the benefit of all. Due to the large influx of mail, no communications to this department are answered individually unless 25c in stamps to cover time and postage is remitted.

It Happened 800,000,000 Years Ago

Editor WONDER STORIES:

First I should like to state my own, and, as far as I know the most generally accepted theory on the origin of Mars. Approximately 800,000,000 years ago a large star approached our sun. As it drew near, huge masses of gas and vaporized metals were drawn from the latter—reaching like a titanic bridge from one to another. When the star finally passed on it left this cigar-shaped mass hanging out in space. As the vapors cooled it began to separate into lumps, these lumps gradually getting farther apart as they swung into their respective orbital paths. The masses cooled and formed our planets, one of which was Mars.

As for the canals, I am inclined to believe Professor Lowell in his theory that intelligent life exists there and that this life is responsible. Probably most of you know that living germs have been found in meteorites, proving that there is life on other worlds.

Time traveling, to my mind, is the most absolutely imbecilic product of a distorted mind that ever was brought into creation. It has been said before that one can never prove what will happen in the future; you can not prove that a stone will drop, though after it has fallen you may prove the latter. Just suppose you wanted to get to the year of 3000, and in attempting to do this you try to speed up all matter in a given area, in proportion with the surrounding mass.

All you will succeed in doing is to break down the matter in its slow process of disintegration. This may not be plain—but let the people who believe in time travel make a machine to transport one into the future and let those who are not inclined to have faith in it test it—then all will go well.

I should like to say a few words in connection with the fourth dimension. In the first place why should there be any fourth-dimensional world at all; we look into one of the great blank portions of space, we say that is space, but that doesn't mean there are any planets there. It is the same way in the first case; we imagine and speculate on a first, second and fourth dimension, but that does not mean there is any!

I sincerely hope that the readers' attention may be drawn to the sensational and marvelously beneficial work of Prof. Goetz, of the California Institute of Technology, who has been experimenting with crystalline metals. He has discovered that by drawing the crystals of a metal into certain formations, by means of magnetic stress at strategic points, when the substance is in molten form, he can produce metals of unimaginable strength and lightness.

WONDER STORIES! ! ! ! ! ! THE MAGAZINE THAT I THINK IS THE BEST ON THE MARKET OF ITS CLASS!! I think that your best authors are:

George A. Dye
Clark A. Smith
Nathan Schachner
Leslie F. Stone

I hope you keep up the extremely good work.

Holmes H. Welch,
Pasadena, Calif.

(Naturally we can only draw conjectures as to what happened 800,000,000 years ago. These conjectures are in many cases bolstered by mathematical calculations tending to prove the possibility of the occurrence. They remain valid as theories until someone comes along with other calculations to show that the event in question could not have happened. And so it goes, *ad infinitum*. After all we have but a few thousand years of experience to use in deducing events of nearly a billion years before. We should make theories, it is true, but we must also remain humble about them.—*Editor.*)

Dutch Readers, Attention!

Editor, WONDER STORIES:

I've just finished the last part of Mr. Manning's "The Man Who Awoke." It was an unusually good story, especially the last two parts. Mr. Manning's idea of time travelling is very plausible; perhaps it will some time come true.

Fragnell's "Isotope Men" was also very interesting. Let us have more from him.

I'll tell you something you have perhaps noticed. Suppose Mr A and B have each a time machine. They start at the same moment with the same velocity into the future. After some time A pulls a lever and his machine stops immediately. B also pulls a lever but 1/1000 of a second later than A. If A and B travelled with a speed ten thousand times faster than the normal time stream what will be the consequence? B will be 9.999 second ahead of A, he can't see or hear him. A will see B and hear him speaking.

To me time travelling with a machine as described in Wells' "Time Machine" is wholly impossible. The most probable way is as described in Taine's "Time Stream" and Manning's "The Man Who Awoke."

I have read about six stories by C. A. Smith. I don't like them altogether. They are fantastically far-fetched. For instance "The Light From Beyond" had no science in it.

If you print this letter I should like you to head it, "Dutch Readers, Attention." WONDER STORIES readers in Holland! Will you send me your address as soon as possible."

S. Stap.
126 Laat,
Alkmaar, Holland.

(Mr. or Heer Stap makes our head swim with his proposition of scooting through the time stream. However we don't know what he means by "10,000 times faster than the normal time stream." If one man goes into the future faster than the other, then one will land up in a more distant time. If they both go at the same rate but for different periods (assuming all of this is possible) then the man who remains in the "time swim" longer will be at a more distant time.

We agree that Mr. Manning's method of time travelling is the most plausible—*Editor.*)

ON LETTERS

BECAUSE of the large number of letters we receive, we find it physically impossible to print them all in full. May we request our correspondents, therefore, to make their letters as brief and to the point as they can; as this will aid in their selection for publication? Whenever possible, we will print the letter in full; but in some cases, when lack of space prohibits publishing the complete letter, we will give a resume of it in a single paragraph.

Putting the Oar In

Editor, WONDER STORIES:

I received the shock of my life when I discovered that WONDER STORIES had gone bimonthly. That means that we have to suffer for two months at a time instead of one. The quicker the magazine gets back to monthly the better. However, I know the editor would not take such drastic steps unless it was necessary, so you have my sincere best wishes for a speedy return to the monthly. As for the discussion, or rather fight about time traveling, I will only be an interested follower, I am, like Mr. Sykora and Mr. Feeney, a "militant anti-time-travelist" but if I put my oar in I would only take up so much space. Mr. Feeney's remark that he thinks is merely an illusion proves very interesting. I would like to hear his reasons for this point of view.

Personally, I would like to see the return of those serials in which a complete story appears in each issue. Although I don't know how the other readers feel about this, I think it is more convenient than reading serials where one must wait an issue for the next installment.

I agree with those readers who dislike stories by Clark Ashton Smith. They would be good reading in Weird Tales or some such magazine, but they seem out of place in WONDER STORIES. They are also difficult to read because one must have the story in one hand and a dictionary in the other. Or maybe I haven't a large enough vocabulary.

WONDER STORIES is full of surprises. Julius Schwartz writes in telling how lousy science fiction is and when I finish reading his letters I find he is managing editor of the "Science Fiction Digest."

Jack Schaller,
Erie, Pa.

(With regard to our friends and enemies, we can only quote Shakespeare, "Sweet are the uses of adversity." With reference to serials that are complete in each issue, we may return to them again. We thought to give our readers a "change" by returning for a few months to the old serial style. We have a corking serial to follow "The Radio Terror" and then—well we will see.—*Editor.*)

To A Gentleman from Yakima

Editor, WONDER STORIES:

A gentleman in Yakima, Washington, wrote me a nice letter, after having read my last letter in WONDER STORIES, and before I had a chance to reply I lost the letter, and address along with it. I would be ever so much obliged if you would print this little notice in the "Reader Speaks," so that the gentleman can again send me his address, for I would like to correspond with him very much.

Lewis F. Torrance,
426 College St.,
Winfield, Kan.

(The gentleman from Yakima can now, we hope get in touch again with the gentleman from Winfield, Kansas. Are you there?—*Editor.*)

The Socialist Yard

Editor, WONDER STORIES:

About six months ago I intended writing you and telling what a big dud your magazine was turning into. But as I'm not familiar with the condition of the "story market" I did not know

THE READER SPEAKS

(Continued from page 284)

whom to blame—you or the authors. I was truly disgusted.

Right now I can't refrain from informing you how thoroughly satisfied and enthusiastic I have been with every issue since you went back to the 25c size.

The correspondent who advised you not to print stories with socialism as their theme, seems to have the idea that it is the same as communism. I advise him to read the platform of the Socialist Party in this country. A mixture of socialism and democracy will be the only solution to giving every person a human break. If you have read of the action of the present administration you can easily see it had to climb into the socialist yard to avoid a panic, and it will stay in that yard for some time in order to pull us out of the morass.

The story, "The Mystery of Planet Deep," was good, but I wish to ask a question concerning it. With so many thousand of pounds of weight on a diving apparatus or any conveyance to the ocean's depths, would it not take enormous power and an unusually large cable to hoist said conveyance to the surface? Or wouldn't the tons of pressure on it affect it the same as a solid weight on top of it? I'm very puzzled over this, no doubt because I'm assuming pressure the same as weight.

John Pratzki,
St. Louis, Mo.

(Although this magazine does not indulge in politics, we must, however, look upon the scientific organization of human society in the same light as upon the scientific organization of material. A society in which the means of production—farms, factories, mines, shipping, etc., are used for the benefit of the whole people and controlled by them under a scientific plan, seems to us to be only common sense, or good science. No doubt the people are coming to realize this, and some day any person who does not believe in such a society will be looked upon as [illegible].

Regarding the pressure-weight question, in the first place, the cable would have to be enormously strong. Its own weight, in fact would be tremendous. But we allowed the author to assume that it was made of materials strong enough to sustain its own weight. There *would* have to be a great deal of power exerted to pull the diving shell up from the depths of great pressure. We know, for example, that it takes energy to walk through water. Now the denser the water the more energy required. But since water is not solid, it is not necessary to lift the *whole* mass of water above the shell in order to pull it up. If the water were solid it would have been impossible, in the first instance, to have let the shell down. For a point would have been reached where the pressure of the water would have been equal to the weight of the shell, and it would have floated.—*Editor.*)

Away With Sluggards

Editor, WONDER STORIES:

The ways of man in his search for a supreme being are startling. From time immemorial the people of this earth have wondered why we came, how did we get here, and the most important, where are we going? The second question has been answered by doctors and biologists but the other two have no apparent answer. Young people the world over have wondered about the other planets in our solar system. Some of the more persevering ones have, doubtless, made observations through a telescope of the more apparent stars and planets. I have often gazed up at the stars and remarked, musingly, to myself "I wonder if I will ever know what is going on up there? Are the inhabitants people like myself or monsters? Will I know within my lifetime or will the world never know?"

I have lately become convinced that the ultimate purpose of human life is to foster and hasten forward the scientific progress of our world. This can only be done by specialized selection of persons wishing to become parents. Only those showing a high degree of intelligence would be allowed to mate. All the morons, idiots and the sluggards must be eliminated from the scheme of existence.

After the process of eliminating the unfit is well under way, an international language should be formed, and international police

(Continued on page 316)

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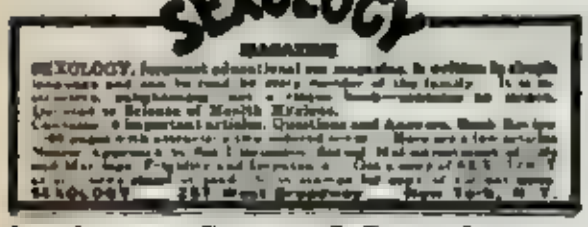

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THE READER SPEAKS

(Continued from page 284)

should patrol where ordinary cops now have their beat. There would be no wars but the nations would be welded into a unit all determined to foster international peace, trade, and scientific advancement. The machines would be utilized so that there would be no working class. Think of what that would mean! Mathematical geniuses like Einstein would be free to pursue the path of science without the necessity of earning a living. The world's progress in the last hundred years has been rapid, burdened as we were with the weight of incompetent dullards who contributed naught to our success. What will our advancement be in the next century without that vast load?

For the answers to these questions I am indebted to your magazine which I consider to be one of the best in the science fiction field today.

Keith Nissen,
Tracy, Calif.

(One of the great difficulties in all schemes to eliminate the unfit, is to determine who is "unfit." Although Mr. Nissen would give Einstein every opportunity to pursue his work, under the assumption that Einstein is one of nature's great products, to Mr. Hitler Einstein is just a Jew. Hitler would therefore eliminate Einstein as one of the unfit. So it all depends upon who does the judging and what his particular bias is. So the problem, although vitally important, becomes very difficult after we have eliminated the feeble-minded and the criminally insane.—*Editor.*)

More Scientifilms

Editor, WONDER STORIES:

Three forthcoming scientifilms from Gernsback publications are Wells' stories taken from early issue of your former magazine: "The War of the Worlds," to be filmed by Paramount; "The Time Machine," producers unknown; and "The Invisible Man," a Universal feature.

You have doubtless already seen "The Island of Lost Souls" taken from "Island of Dr. Moreau." A Paramount production, it brought to life Wells' evolved creatures that Paul once years ago so finely drew.

You might change my "Reader Speaks" statement to saying that there are over twenty-five scientifilms forthcoming. Since writing, further announcements have been made by the film companies.

Forrest J. Ackerman,
San Francisco, Calif.

(With no disparagement to Mr. Ackerman, we are inclined to take the announcements of some of these scientifilms with a grain of salt. Film companies are in the habit of making announcements any time a bright young executive gets an idea. Perhaps they want to sound out public sentiment on the proposed film. At any rate, a great deal of what is projected in the minds of film executives, or in the releases of their publicity men, never materialize. They remain in the fourth dimension of desire and expectation. In this case we hope we are wrong. —*Editor.*)

Where Are They?

Editor, WONDER STORIES:

I have just completed my second anniversary of being a WONDER STORIES reader and I think it is time for me to say things about this science fiction magazine.

From the start, when I was attracted by the cover depicting the story "The City of the Singing Flame," I have been a constant reader ever since. I think "our" magazine is the best of its kind and I hope it will be in the future.

The stories were all good and please give us more serials like, "The Time Projector," "Exiles Of The Moon," "The Time Stream," "The Final War," and "Brood Of Helios." Short stories like, "Rebellion—6000 A. D.," "The Mutiny In Space," "After 1,000,000 Years," "The Super Man of Dr. Jukes," "The World Of The Red Sun," "A Conquest Of Two Worlds," "The Eternal World," and "Death From The Stars" and its sequel. Authors like Clark Ashton Smith, P. Schuyler Miller, A. Rowley Hillard, Jack Williamson, Ray Cummings, Francis Flagg, Nathan Schachner and A. L. Zagat, and David Lasser and David Keller. Also new authors with good stories.

But here are some things from my mind I

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Description of male sex organs, and their appearance—description of female sex organs and their appearance.

Purpose of sex organs—man's part and woman's part—difference between animals and human beings in use of sex organs legal rights of husband—a sin in marriage—husband's and wife's attitude—wrongful advice to be avoided—chastity vs. passion—love, the teacher—the right way to happiness.

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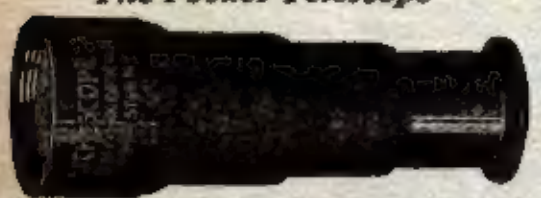

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THE READER SPEAKS

(Continued from page 285)

want to say about WONDER STORIES—from the front cover, to the last.

I know Paul is the best science fiction artist. He illustrates the stories and paints the covers with no mean ability but since he began tackling the whole work, his works are becoming poor and inartistic. Several months ago, the covers were monotonously painted in the oppressing primary colors. The best cover he ever painted so far, was the cover of the October, 1931 issue. In pen and ink, he is a master but now he is drawing in pencil! Where are his stupendous and gigantic machines, his bizarre cities and ethereal entities, his space ships, his imaginative scenes . . . where are they? No wonder an excellent artist can lose his imagination when doing all the illustrating every month. So bring back Marchioni and let him help Paul with at least two illustrations in every issue. Keep the full page illustrations.

Keep on printing the "previews" of the coming stories on the same page with the table of contents.

If possible, eliminate advertisements on the first few pages of the magazine.

Only print the pictures of new authors.

I would like to see the editorial facing the table of contents.

Keep up the "What Is Your Science Knowledge" and also the "Science Questions and Answers."

Please devote more space to the "The Reader Speaks" columns.

More book reviews.

And on the last page (this is a plea) start an original story running on STRIPS every month. A long serial is better. Ask Paul to do it. One full-page!

Lastly, I wish WONDER STORIES long life in the future.

J. R. Ayco,
Ateneo de Manila,
Manila, P. I.

(We have referred Mr. Ayco's complaints to Paul himself, so that Paul can examine himself and detect what shortcomings might have cropped out in his work. The editors are taking into consideration the other suggestions made by our Philippines correspondent. He gives us much to ponder over.—*Editor.*)

Finding Lost Races

Editor, WONDER STORIES:

Congratulations on the splendid July-Aug. issue of WONDER STORIES! It is beyond reproach.

"The Cosmic Horror" by Richard F. Searight claims first place for its excellent action and description. It certainly is a fine story.

"The Mystery of Planet Deep" by George A. Dye takes second place. Mr. Dye is a fine writer and I hope to read more of his work; it is very good.

"The Isotope Men," by Festus Pragnell, "The Man Who Awoke-V The Elixir" by Lawrence Manning, and "Castaways On Deimos" by J. Harvey Haggard take third, fourth and fifth places in their respective order. They are all excellent!

It may be of interest to you to know that in a desolated section of the Sahara a remarkable discovery has been made. Excavations show that the lost civilizations of Mu and Atlantis may have had their founding there, and with the aid of X-ray machines and delicate scientific devices the excavators have brought to light many wonderful things, among which are virgin gold jewelry and instruments and priceless stones of all descriptions. It is hoped that in a short time they will know where the lost races are, learning this from hidden parchment maps.

Frederick John Walsen,
Denver, Colorado.

(The theory that the possible lost civilization of Atlantis had part of its abode in the Sahara seems plausible, and we hope that the reported find does not turn out to be another false alarm. The scientific world, as well as other parts, is filled with publicity seekers, who on no provocation at all, are willing to claim the most fantastic things. We hear no more about many of them in the scientic world, after the first news story, but the "scientists" turn up as writers of books, or actors on the Keith circuit. "Sweet are the uses of publicity."—*Editor.*)

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BOOK REVIEWS

CENTURY OF PROGRESS, edited by Charles A. Beard. 450 pages, stiff cloth covers, size 6½x9½. Published by Harper & Bros., New York. Price $3.00.

This book is a series of articles tracing the progress of the race over the past hundred years, 1833-1933, the period paralleling the founding and growth of Chicago. Dr. Beard as editor of the book attempts the task of determining whether there is such a thing as "progress," a path that we can trace as the centuries have unrolled that leads to a definite goal.

For this purpose he has collected together a number of experts, each of whom is entrusted with the charting of the changes that have occurred in his field over the last century. To Waldemar Kaempffert was given the job of writing on "Invention as a Social Manifestation." Henry Ford has treated "Industry"; Edward Hungerford, "Transportation and Communication"; William Green writes on "Labor"; Charles A. Beard on "Government and Law"; and other writers on such topics as "The Changing Position of Women"; "Banking and Finance"; "Medicine," "The Arts" and "Literature."

One does get the impression from the book of a disjointed rate of progress in the various field of human endeavor. The enormous strides made in invention contrast with the relatively slow progress in government and law. Although we have left far behind us the methods and practices in industry of 100 years ago, our social processes have changed but little in comparison.

In any event the book is well worth reading, to gain a perspective on 100 crucial years of human history.

FIGHTING THE INSECTS by L. O. Howard. 333 pages, stiff cloth covers. Size 6x8¾. Published by Macmillan Company, New York. Price $2.50.

This book, a companion to the author's, "The Insect Menace," tells of Dr. Howard's long life devoted to the study and practice of insect control. As Chief of the Bureau of Entomology of the Department of Agriculture, Dr. Howard was in the central position to view the insect menace and what could be done to combat it. This book is more than a technical exposition, it is a lively story of Dr. Howard's experiences around the world; his acquaintances in far flung places, the romance and adventure that filled the life of an entomologist.

It is an intensely readable, warm and human document, that should appeal to the fascinated readers of "The Insect Menace."

NOTICE

Don't forget the next issue of Wonder Stories is the November number—

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Now comes a daring new book about sex, different from any other you may have ever read before. It is a book written especially for men and women who are not afraid to face the facts, and who want to learn the real truth about sex and sexual intimacies.

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This Partial Table of Contents gives you a faint idea of the value and the completeness of Dr. Wm. J. Robinson's wonderful new book, entitled:

SEX, LOVE *and* MORALITY

Principles of General and Sexual Morality
Promiscuous Relations
Extra-Marital Relations with 16 Illustrations
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Wrong View of Sanctions and Duties of Love
Sexual Favors
The Double Standard
Unnatural Methods of Love
Definition of Prostitution
Prostitute's Moral Level
Prostitute's Mental Level
Ethics of Prostitution
Does Prostitution Supply a Genuine Need?
Will Prostitution Ever Disappear Entirely?
What to Do With the Prostitute
Three Kinds of Prostitutes
Homosexuality, Transvestitism, and Sadism
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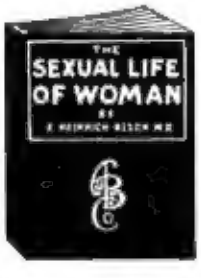

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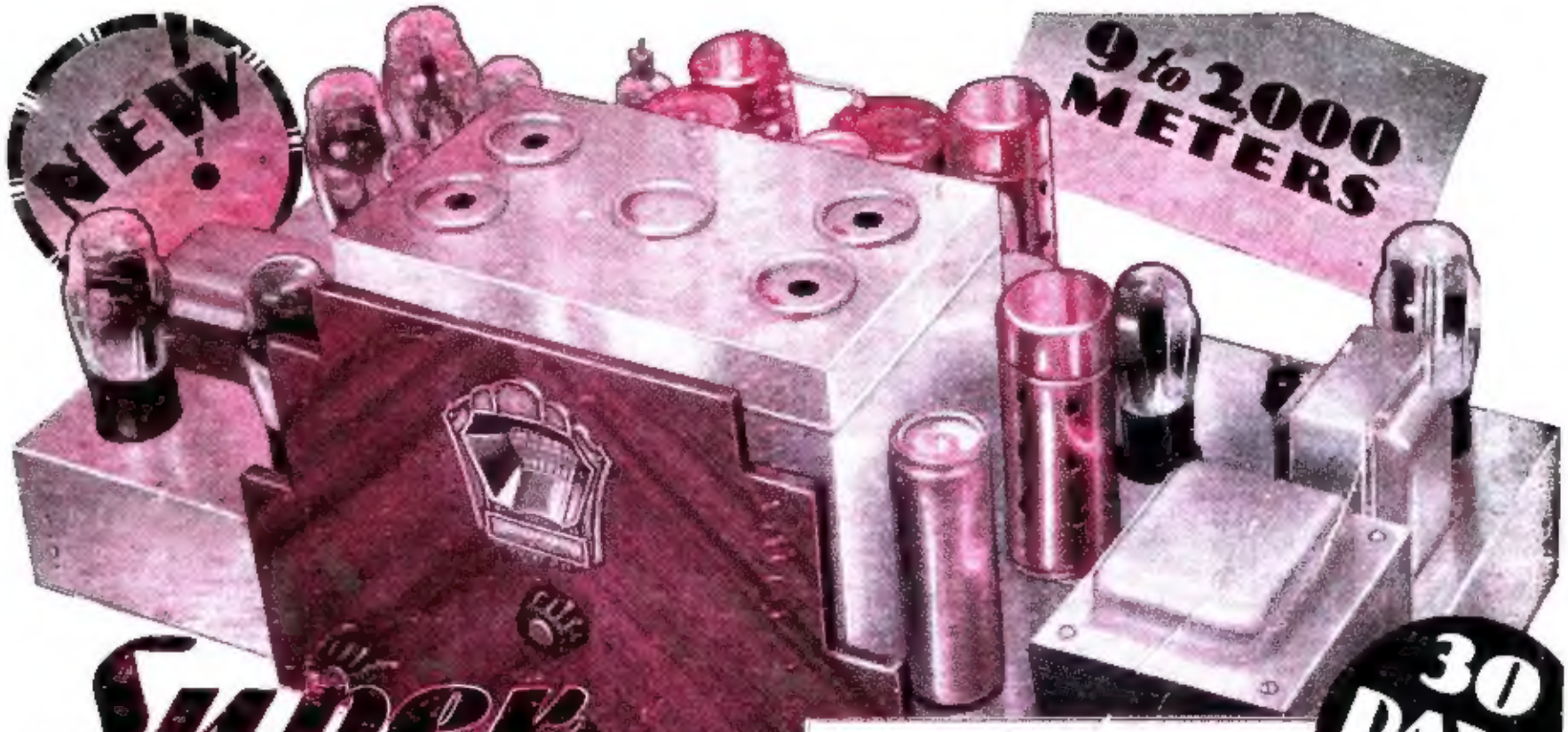

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